CHAPTER 12

LIST OF EFFECTIVE TEMPORARY REVISIONS

FOLLOWING IS A COMPLETE LISTING OF ALL ACTIVE TEMPORARY REVISIONS (TR'S). TR'S NOT LISTED SHOULD BE REMOVED. THE ATA NUMBER, CONFIG CODE AND PAGE NUMBER IDENTIFIES THE PAGE PRECEDING THE TR.

TR NUMBER	ATA NUMBER	CONFIG CODE	PAGE NUMBER	TR DATE

NONE

CHAPTER 12

SERVICING

LIST OF EFFECTIVE PAGES

	CHAPTER/ SECTION	PAGE	DATE	CONFIG CODE
	List of Effective Pages	1	Dec 15/95	
		2	Dec 15/95	
		3	Dec 15/95	
		4	Dec 15/95	
		5/6	Dec 15/95	
	Table of Contents	1	Jun 15/94	
		2	Jun 15/94	
		3	Jun 15/94	
		4	Nov 15/89	
		5	May 15/90	
		6	Nov 15/89	
		7/8	Jun 15/94	
	12-00-00	1	Sep 15/73	
	12-00-00	2	Nov 15/83	
	12-00-00	3	Nov 15/83	
	12-00-00	4	Nov 15/83	
	12-00-00	5	Nov 15/83	
	12-00-00	6	May 15/85	
	12-00-00	7/8	Mar 15/91	
	12-10-00	1/2	Mar 15/80	
R	12-11-00	301/302	Dec 15/95	
	12-11-01	201	Nov 15/89	
	12-11-01	202	Nov 15/89	
	12-11-01	203	Nov 15/89	
R	12-11-01	204	Dec 15/95	
	12-11-01	301	Sep 15/79	1
	12-11-01	302	Sep 15/79	1
	12-11-01	303	Sep 15/79	1
	12-11-01	304	Dec 15/80	1
	12-11-01	305	Dec 15/80	1
	12-11-01	306	May 15/82	1
	12-11-01	301	May 15/82	2
	12-11-01	302	May 15/82	2
	12-11-01	303	May 15/82	2
	12-11-01	304	May 15/82	2
	12-11-01	305/306	May 15/82	2
	12-11-02	301	Jun 15/92	
	12-11-02	302	Jun 15/92	
	12-11-02	303	Jun 15/92	
	12-11-02	304	Jun 15/92	
	12-11-02	305	May 15/86	
	12-11-02	306	May 15/86	
	12-11-02	307	Jun 15/92	
	12-11-02	308	Jun 15/92	
R	12-11-02	309	Dec 15/95	
R	12-11-02	310	Dec 15/95	
R	12-11-02	311/312	Dec 15/95	
	12-11-03	301	Jun 15/95	
	12-11-03	302	Nov 15/84	
	12-11-03	303	Nov 15/84	
	12-11-03	304	Jun 15/95	
	12-11-03	305	Jun 15/95	
	12-11-03	306	Nov 15/84	
	12-11-03	307	Jun 15/95	
	12-11-03	308	Jun 15/95	
	12-11-03	309	Nov 15/84	
	12-11-03	310	Dec 15/80	
	12-11-03	311	Dec 15/80	
	12-11-03	312	Dec 15/80	
	12-11-03	313	Dec 15/80	
	12-11-03	314	Dec 15/80	
	12-11-03	315	Dec 15/80	
	12-11-03	316	Dec 15/80	
	12-11-03	317	Dec 15/80	
	12-11-03	318	Dec 15/80	
	12-11-03	319	Dec 15/80	
	12-11-03	320	Dec 15/80	
	12-11-03	321	Dec 15/80	
	12-11-03	322	Dec 15/80	
	12-11-03	323	Dec 15/80	
	12-11-03	324	Dec 15/80	
	12-11-03	325	Dec 15/80	
	12-11-03	326	Dec 15/80	
	12-11-03	327	Dec 15/80	
	12-11-03	328	Jun 15/95	
	12-11-03	329	Dec 15/80	
	12-11-03	330	Dec 15/80	
	12-11-03	331	Dec 15/80	
	12-11-03	332	Dec 15/80	
	12-11-03	333	Dec 15/80	
	12-11-03	334	Dec 15/80	
	12-11-03	335	Dec 15/80	

CHAPTER/ SECTION	PAGE	DATE	CONFIG CODE
12-11-03	336	Dec 15/80	
12-11-03	337	Dec 15/80	
12-11-03	338	Dec 15/80	
12-11-03	339	Dec 15/80	
12-11-03	340	Dec 15/80	
12-11-03	341	Dec 15/80	
12-11-03	342	Dec 15/80	
12-11-03	343	Dec 15/80	
12-11-03	344	Dec 15/80	
12-11-03	345	Dec 15/80	
12-11-03	346	Dec 15/80	
12-11-03	347	Dec 15/80	
12-11-03	348	Dec 15/80	
12-11-03	349	Dec 15/80	
12-11-03	350	Dec 15/80	
12-11-03	351	Dec 15/80	
12-11-03	352	Dec 15/80	
12-11-03	353	Dec 15/80	
12-11-03	354	Dec 15/80	
12-11-03	355	Dec 15/80	
12-11-03	356	Dec 15/80	
12-11-03	357	Dec 15/80	
12-11-03	358	Dec 15/80	
12-11-03	359	Dec 15/80	
12-11-03	360	Dec 15/80	
12-11-03	361	Dec 15/80	
12-11-03	362	Dec 15/80	
12-11-03	363	Dec 15/80	
12-11-03	364	Dec 15/80	
12-11-03	365	Dec 15/80	
12-11-03	366	Dec 15/80	
12-11-03	367	Dec 15/80	
12-11-03	368	Dec 15/80	
12-11-03	369	Dec 15/80	
12-11-03	370	Dec 15/80	
12-11-03	371	Dec 15/80	
12-11-03	372	Dec 15/80	
12-11-03	373	Dec 15/80	
12-11-03	374	Dec 15/80	
12-11-03	375	Dec 15/80	
12-11-03	376	Dec 15/80	
12-11-03	377	Dec 15/80	
12-11-03	378	Dec 15/80	
12-11-03	379	Dec 15/80	
12-11-03	380	Dec 15/80	
12-11-03	381	Dec 15/80	
12-11-03	382	Dec 15/80	
12-11-03	383	Dec 15/80	
12-11-03	384	Dec 15/80	
12-11-03	385	Dec 15/80	
12-11-03	386	Dec 15/80	
12-11-03	387	Dec 15/80	
12-11-03	388	Dec 15/80	
12-11-03	389	Dec 15/80	
12-11-03	390	Dec 15/80	
12-11-03	391	Dec 15/80	
12-11-03	392	Dec 15/80	
12-11-03	393	Dec 15/80	
12-11-03	394	Dec 15/80	
12-11-03	395	Dec 15/80	
12-11-03	396	Dec 15/80	
12-11-03	397	Dec 15/80	
12-11-03	398	Dec 15/80	
12-11-03	399	Dec 15/80	
12-11-03	400	Dec 15/80	
12-11-03	401	Dec 15/80	
12-11-03	402	Dec 15/80	
12-11-03	403	Jun 15/95	
12-11-03	404	Dec 15/80	
12-11-03	405	Dec 15/80	
12-11-03	406	Dec 15/80	
12-11-03	407	Jun 15/95	
12-11-03	408	Dec 15/80	
12-11-03	409	Jun 15/95	
12-11-03	410	Dec 15/80	
12-11-03	411	Dec 15/80	
12-11-03	412	Dec 15/80	
12-11-03	413	Jun 15/95	
12-11-03	414	Dec 15/80	
12-11-05	301	Nov 15/88	
12-11-05	302	May 15/82	
12-11-05	303	Aug 15/81	
12-11-05	304	Dec 15/80	
12-11-05	305	Dec 15/80	
12-11-05	306	May 15/82	
R 12-11-11	301	Dec 15/95	
12-11-11	302	Dec 15/80	
12-11-11	303	May 15/82	
R 12-11-11	304	Dec 15/95	
12-11-11	305	Dec 15/80	
R 12-11-11	306	Dec 15/95	
12-11-11	307/308	Dec 15/80	
12-11-11	309/310	May 15/82	
R 12-11-11	311	Dec 15/95	
12-11-11	312	Dec 15/80	
12-11-11	313	Dec 15/80	

	CHAPTER/ SECTION	PAGE	DATE	CONFIG CODE
R	12-11-11	314	Dec 15/95	
R	12-11-11	315	Dec 15/95	
R	12-11-11	316	Dec 15/95	
R	12-11-11	317	Dec 15/95	
R	12-11-11	318	Dec 15/95	
R	12-11-11	319	Dec 15/95	
	12-11-11	320	Nov 15/88	
R	12-11-11	321	Dec 15/95	
R	12-11-11	322	Dec 15/95	
	12-11-11	323	Dec 15/91	
	12-11-11	324	Nov 15/88	
	12-11-21	301	Nov 15/85	
R	12-11-21	302	Dec 15/95	
R	12-11-21	303	Dec 15/95	
R	12-11-21	304	Dec 15/95	
R	12-11-21	305	Dec 15/95	
R	12-11-21	306	Dec 15/95	
	12-11-21	307	Mar 15/83	
R	12-11-21	308	Dec 15/95	
	12-12-00	301/302	Nov 15/73	
	12-12-01	301	Dec 15/93	
	12-12-01	302	Dec 15/94	
	12-12-01	303	Dec 15/94	
	12-12-01	304	Dec 15/94	
	12-12-01	305	Dec 15/94	
	12-12-01	306	Dec 15/94	
	12-12-01	307	Dec 15/93	
	12-12-01	308	Dec 15/93	
	12-12-01	309/310	Dec 15/93	
	12-12-11	301	Nov 15/89	
	12-12-11	302	Aug 15/81	
	12-12-11	303/304	Nov 15/89	
	12-12-21	301	Mar 15/91	
	12-12-21	302	May 15/82	
	12-12-21	303	Mar 15/81	
	12-12-21	304	May 15/87	
	12-12-21	305	Nov 15/86	
	12-12-21	306	Nov 15/86	
	12-12-21	307	Nov 15/82	
	12-12-21	308	Nov 15/86	
	12-12-31	301	May 15/85	
	12-12-31	302	May 15/82	
	12-12-31	303	May 15/85	
	12-12-31	304	May 15/85	
	12-12-41	301	Mar 15/91	
	12-12-41	302	Nov 15/81	
	12-12-41	303	Nov 15/81	
	12-12-41	304	May 15/82	
	12-12-41	305/306	Nov 15/81	
	12-12-51	301	Mar 15/91	
	12-12-51	302	Mar 15/91	
	12-12-51	303	May 15/85	
	12-12-51	304	Aug 15/77	
	12-12-51	305/306	Feb 15/79	
	12-12-61	301	May 15/87	
	12-12-61	302	Nov 15/84	
	12-12-61	303	Nov 15/84	
	12-12-61	304	Nov 15/84	
	12-12-71	301	May 15/89	
	12-12-71	302	Apr 15/73	
	12-13-00	301/302	Nov 15/73	
	12-13-01	301	Dec 15/94	
	12-13-01	302	Mar 15/81	
	12-13-01	303	Nov 15/78	
	12-13-01	304	May 15/82	
	12-13-01	305	May 15/82	
	12-13-01	306	May 15/82	
	12-13-01	307	May 15/82	
	12-13-01	308	May 15/82	
	12-13-02	301	Jul 15/83	
	12-13-02	302	Jul 15/83	
	12-13-02	303/304	Feb 15/75	
	12-13-02	305	Jul 15/83	
	12-13-02	306	Jul 15/83	
	12-13-02	307	Nov 15/88	
	12-13-02	308	Jul 15/83	
	12-13-02	309/310	Feb 15/75	
	12-14-00	301	Mar 15/81	
	12-14-00	302	Mar 15/81	
	12-14-01	301	Nov 15/88	
	12-14-01	302	May 15/88	
	12-14-02	301	Dec 15/91	
	12-14-02	302	Dec 15/91	
	12-14-02	303	Dec 15/91	
	12-14-02	304	Dec 15/91	
	12-14-02	305/306	Dec 15/91	
	12-14-02	307	Dec 15/91	
	12-14-02	308	Dec 15/91	
	12-14-02	309/310	Dec 15/91	
	12-14-11	301	May 15/86	
	12-14-11	302	Dec 1/71	
	12-14-11	303	Nov 15/87	
	12-14-11	304	Dec 15/93	
	12-14-12	301	Jun 15/92	
	12-14-12	302	Jun 15/92	
	12-14-12	303	Jun 15/92	

CHAPTER/ SECTION	PAGE	DATE	CONFIG CODE
12-14-12	304	Jun 15/92	
12-14-13	301	Jul 15/84	
12-14-13	302	Jul 15/84	
12-14-13	303/304	Jun 15/92	
12-14-14	301	Mar 15/81	
12-14-14	302	Mar 15/81	
12-14-14	303	Mar 15/81	
12-14-14	304	Feb 15/78	
12-14-14	305/306	Feb 15/78	
12-14-16	301	May 15/86	
12-14-16	302	May 15/86	
12-14-16	303/304	Aug 15/78	
12-15-00	301/302	Nov 15/73	
12-15-01	301	Mar 15/91	
12-15-01	302	Mar 15/91	
12-15-01	303	Mar 15/91	
12-15-01	304	Mar 15/91	
12-15-01	305/306	Mar 15/91	
12-15-11	301	Aug 15/82	
12-15-11	302	Jul 15/83	
12-15-11	303	Jul 15/83	
12-15-11	304	Jul 15/83	
12-15-11	305	Jul 15/83	
12-15-11	306	Jul 15/83	
12-15-11	307	Aug 15/82	
12-15-11	308	Aug 15/82	
12-16-00	301/302	Jul 15/73	
12-16-01	301	Nov 15/83	
12-16-01	302	May 15/76	
12-16-01	303/304	Sep 15/73	
12-16-02	301/302	Aug 15/81	
12-16-03	301	May 15/85	
12-16-03	302	May 15/86	
12-16-04	301	Aug 15/81	
12-16-04	302	Aug 15/81	
12-20-00	301	May 15/87	
12-20-00	302	May 15/87	
12-20-00	303	Mar 15/91	
12-20-00	304	Jul 15/84	
12-20-00	305/306	Jul 15/84	
12-21-00	301/302	Dec 1/72	
12-21-06	301/302	Dec 1/71	
12-21-07	301/302	Dec 1/71	
12-21-31	301	Aug 15/81	
12-21-31	302	Aug 15/81	
12-21-31	303	May 15/88	
12-21-31	304	May 15/88	
12-21-31	305/306	Aug 15/81	
12-21-46	301/302	Dec 1/71	
12-22-00	301/302	Nov 15/73	
12-22-41	301	Nov 15/85	
12-22-41	302	Nov 15/85	
12-22-42	301/302	Jun 15/73	
12-22-43	301/302	Aug 15/81	
12-22-43	303/304	Jul 15/83	
12-22-43	305/306	Jul 15/83	
12-22-43	307/308	Jul 15/83	
12-22-43	309/310	Nov 15/84	
12-22-43	311/312	Nov 15/84	
12-22-43	313/314	Nov 15/84	
12-22-43	315/316	Nov 15/84	
12-22-43	317/318	Nov 15/84	
12-22-43	319	Nov 15/84	
12-22-43	320	Nov 15/84	
12-22-43	321	Nov 15/84	
12-22-43	322	Nov 15/84	
12-22-43	323	Nov 15/84	
12-22-43	324	Nov 15/84	
12-22-45	301/302	May 15/88	
12-22-46	301/302	Mar 15/81	
12-23-00	301	Jun 15/93	
12-23-00	302	Jun 15/93	
12-23-01	301	Jun 1/72	
12-23-01	302	Jun 1/72	
12-23-01	303	May 15/88	
12-23-01	304	May 15/78	
12-23-01	305	Jul 15/84	
12-23-01	306	May 15/78	
12-23-01	307/308	Mar 15/83	
12-23-01	309/310	Nov 15/84	
12-23-02	301	Feb 15/74	
12-23-02	302	Aug 15/81	
12-23-02	303/304	Feb 15/74	
12-23-10	301	Jun 1/72	
12-23-10	302	Jun 15/93	
12-23-10	303	Jun 15/93	
12-23-10	304	Dec 15/80	
12-23-15	301	Nov 15/88	
12-23-15	302	Aug 15/75	
12-23-15	303	May 15/82	
12-23-15	304	Jun 15/79	
12-23-15	305	Jun 15/79	
12-23-15	306	Aug 15/81	
12-23-15	307	May 15/90	
12-23-15	308	May 15/90	
12-23-15	309	May 15/90	

CHAPTER/ SECTION	PAGE	DATE	CONFIG CODE
12-23-15	310	May 15/90	
12-23-20	301	Dec 15/94	
12-23-20	302	May 15/87	
12-23-20	303	May 15/87	
12-23-20	304	May 15/87	
12-23-20	305	May 15/87	
12-23-20	306	May 15/87	
12-23-20	307	May 15/87	
12-23-20	308	Nov 15/82	
12-23-20	309	Nov 15/82	
12-23-20	310	Nov 15/82	
12-23-20	311	Nov 15/82	
12-23-20	312	Nov 15/82	
12-23-20	313	Jul 15/83	
12-23-20	314	Jul 15/83	
12-23-20	315	Jul 15/83	
12-23-20	316	Nov 15/82	
12-23-20	317	Nov 15/82	
12-23-20	318	May 15/87	
12-23-20	319/320	May 15/87	
12-24-00	301	May 15/76	
12-24-00	302	May 15/76	
12-24-01	301	Feb 15/74	
12-24-01	302	Mar 15/84	
12-24-01	303	Mar 15/84	
12-24-01	304	Dec 15/92	
12-24-01	305	Mar 15/84	
12-24-01	306	Mar 15/84	
12-24-01	307	Mar 15/84	
12-24-01	308	May 15/85	
12-24-02	301/302	Dec 1/72	
12-24-03	301/302	Mar 15/81	
12-24-11	301	Aug 15/81	
12-24-11	302	Aug 15/81	
12-24-11	303	May 15/86	
12-24-11	304	May 15/86	
12-24-11	305	Mar 15/84	
12-24-11	306	Mar 15/84	
12-24-11	307	Mar 15/84	
12-24-11	308	Mar 15/84	
12-24-11	309	Mar 15/84	
12-24-11	310	Mar 15/84	
12-24-21	301	Mar 15/84	
12-24-21	302	Mar 15/84	
12-24-21	303	Mar 15/84	
12-24-21	304	Mar 15/84	
12-24-21	305/306	Mar 15/84	
12-24-31	301	Mar 15/84	
12-24-31	302	Mar 15/84	
12-24-31	303	Mar 15/84	
12-24-31	304	May 15/85	
12-26-00	301/302	Mar 15/80	
12-26-01	301/302	May 15/74	
12-26-02	301	Dec 15/80	
12-26-02	302	Nov 15/86	
12-26-03	301/302	Dec 1/72	
12-30-01	301/302	Aug 15/82	
12-30-02	301/302	Mar 15/83	

CHAPTER 12

SERVICING

TABLE OF CONTENTS

	Subject	Chapter Section Subject	Page	Effectivity
	SERVICING	12-00-00		
	Description and Operation		1	ALL
R	AIRPLANE REPLENISHING	12-10-00		
R	Description and Operation		1	ALL
	FUEL SYSTEM REPLENISHING	12-11-00		
	Servicing		301	ALL
	NOTE: Refer to MM 28-11-00 for Fuel Tank Leak Check			
	MEASUREMENT - FUEL QUANTITY	12-11-01		
	Maintenance Practices		201	ALL
	Servicing		301	CONFIG 1 001-024, 027
	Servicing		301	CONFIG 2 025, 026 028-999
	FUEL SYSTEM	12-11-02		
	Servicing		301	ALL
	Servicing			
C	Refueling With Fuel Quantity			
C	Indicator Inoperative			
C	Fuel Transfer			
	GAGES, SIGHT - FUEL LEVEL	12-11-03		
	Servicing		301	ALL
	VALVES, DRAIN - TANK SUMP	12-11-05		
	Servicing		301	ALL
	PRESSURE-FUELING - UNDERWING	12-11-11		
	Servicing		301	ALL
	FUELING - GRAVITY	12-11-21		
R	Servicing		301	ALL

Subject	Chapter Section Subject	Page	Effectivity
R REPLENISHING (CONT)	12-10-00		
LUBRICATING OIL REPLENISHING	12-12-00		
Servicing		301	ALL
REPLENISHING - ENGINE OIL	12-12-01		
Servicing		301	ALL
REPLENISHING - ENGINE STARTER OIL	12-12-11		
Servicing		301	ALL
REPLENISHING, OIL INTEGRATED DRIVE GENERATOR (IDG)	12-12-21		
Servicing		301	ALL
REPLENISHING, OIL AIR CYCLE MACHINE	12-12-31		
Servicing		301	ALL
REPLENISHING, OIL AUXILIARY POWER UNIT	12-12-41		
Servicing		301	ALL
REPLENISHING, OIL - GENERATOR ASSEMBLY, APU	12-12-51		
Servicing		301	ALL
AIR TURBINE MOTOR (ATM)	12-12-61		
Servicing		301	ALL
MOTOR, AIR - THRUST REVERSER	12-12-71		
R Servicing		301	ALL

Subject	Chapter Section Subject	Page	Effectivity
R REPLENISHING (CONT)	12-10-00		
HYDRAULIC SYSTEM REPLENISHING	12-13-00		
Servicing		301	ALL
REPLENISHING - HYDRAULIC FLUID	12-13-01		
Servicing		301	ALL
HYDRAULIC SYSTEM	12-13-02		
Servicing		301	ALL
GASEOUS REPLENISHING	12-14-00		
Servicing		301	ALL
INFLATION - TIRE	12-14-01		
Servicing		301	ALL
OXYGEN - CREW	12-14-02		
Servicing		301	ALL
CHARGING, ACCUMULATOR LANDING GEAR BRAKE	12-14-11		
Servicing		301	ALL
STRUT, SHOCK - MAIN GEAR	12-14-12		
Servicing		301	ALL
STRUT, SHOCK - NOSE GEAR	12-14-13		
Servicing		301	ALL
SKID - TAIL	12-14-14		
Servicing		301	ALL
HYDRAULIC RESERVOIR AUXILIARY PRESSURIZATION ACCUMULATOR CHARGING	12-14-16		
Servicing		301	001-014 WITH SB29-040 AND 015-999

Subject	Chapter Section Subject	Page	Effectivity
REPLENISHING (CONT)	12-10-00		
WATER/WASTE SYSTEMS REPLENISHING	12-15-00		
Servicing		301	ALL
REPLENISHING - POTABLE WATER TANK	12-15-01		
Servicing		301	ALL
REPLENISHING - WASTE DISPOSAL SYSTEM	12-15-11		
Servicing		301	ALL
MISCELLANEOUS SYSTEMS REPLENISHING	12-16-00		
Servicing		301	ALL
REPLENISHING - RESERVOIR WINDSHIELD WASHER	12-16-01		
Servicing		301	ALL
REPELLANT, RAIN - WINDSHIELD	12-16-02		
Servicing		301	ALL
HORN, WARNING - APU	12-16-03		
Servicing		301	ALL
REPLACEMENT, ENGINE WASH FLUID AUXILIARY POWER UNIT	12-16-04		
Servicing		301	ALL

	Subject	Chapter Section Subject	Page	Effectivity
	SCHEDULED SERVICING - LUBRICATION	12-20-00		
	Servicing		301	ALL
	LUBRICATION - POWERPLANT/APU	12-21-00		
	Servicing		301	ALL
	LUBRICATION, COWLING - ENGINE NO. 2	12-21-06		
	Servicing		301	ALL
	LUBRICATION, DOOR ASSEMBLY - AIR INTAKE (S-DUCT) ADAPTER	12-21-07		
	Servicing		301	ALL
	LUBRICATION - ENGINE EXHAUST SYSTEM	12-21-31		
R	Servicing		301	ALL
	LUBRICATION - AUXILIARY POWER SYSTEM	12-21-46		
R	Servicing		301	ALL
	EQUIPMENT/FURNISHINGS LUBRICATION	12-22-00		
	Servicing		301	ALL
	LUBRICATION, DOOR - PASSENGER AND EMERGENCY	12-22-41		
	Servicing		301	ALL
	LUBRICATION, DITCH LATCH GALLEY DOOR (G-1)	12-22-42		
	Servicing		301	ALL
	LUBRICATION - CARGO DOOR	12-22-43		
	Servicing		301	ALL
	LUBRICATION, MODULE OVERHEAD COAT STOWAGE	12-22-45		
	Servicing		301	ALL
	LUBRICATION, ACTUATOR RAM AIR TURBINE	12-22-46		
	Servicing		301	ALL

	Subject	Chapter Section Subject	Page	Effectivity
	SCHEDULED SERVICING - LUBRICATION (CONT)	12-20-00		
	FLIGHT CONTROLS LUBRICATION	12-23-00		
	Servicing		301	ALL
	SLATS, LEADING EDGE	12-23-01		
R	Servicing		301	ALL
	AILERON	12-23-02		
R	Servicing		301	ALL
	RUDDER	12-23-10		
R	Servicing		301	ALL
	ELEVATOR AND HORIZONTAL STABILIZER	12-23-15		
R	Servicing		301	ALL
	SPOILERS AND WING FLAPS	12-23-20		
	Servicing		301	ALL
	LANDING GEAR AND DOORS LUBRICATION AND SERVICING	12-24-00		
	Servicing		301	ALL
	LANDING GEAR, MAIN	12-24-01		
	Servicing		301	ALL
	BRAKE ASSEMBLY	12-24-02		
	Servicing		301	ALL
	MECHANICAL DOWNLOCK INDICATOR	12-24-03		
	Servicing		301	ALL
	DOORS - MAIN LANDING GEAR	12-24-11		
	Servicing		301	ALL
	LANDING GEAR, NOSE	12-24-21		
	Servicing		301	ALL
	DOORS - NOSE LANDING GEAR	12-24-31		
	Servicing		301	ALL

	Subject	Chapter Section Subject	Page	Effectivity
	SCHEDULED SERVICING - LUBRICATION (CONT)	12-20-00		
	AIRFRAME STRUCTURE LUBRICATION	12-26-00		
	Servicing		301	ALL
	PRESSURE DECK AND FLOOR BEAM	12-26-01		
	Servicing		301	ALL
	FITTINGS, ATTACH - WING PYLON	12-26-02		
	Servicing		301	ALL
	FITTINGS, WING TRAILING EDGE TO FUSELAGE	12-26-03		
R	Servicing		301	ALL
C	REMOVAL, SNOW AND ICE	12-30-01		
C	Refer to Chapter 7 of the			
C	GP&P Manual		301	ALL
	ANTI-FOGGING, VIEWPORT - CARGO DOOR	12-30-02		
	Servicing		301	ALL

SERVICING - DESCRIPTION AND OPERATION

1. General

The servicing chapter contains information concerning material requirements for replenishing the airplane (fuel, oil, hydraulic fluid, etc.) together with scheduled and unscheduled basic services required to properly and safely prepare the airplane for flight. Instructions for the replacement of filters, sterilization of the potable water system, and other similar services are contained in related chapters of the maintenance manual.

Time limitations and ease of accomplishing airplane service requirements are considered throughout the servicing procedures but are secondary to the safety of personnel and equipment. Compliance with instructions, warnings, and cautions is mandatory to avoid injury or death to personnel, and damage to the airplane and associated equipment.

2. Replenishment

Replenishing procedures are provided which include tank and reservoir capacities, fill quantities and approved specifications for the material requirements of the airplane systems and components. The operational integrity of the airplane systems can be seriously impaired if unapproved or contaminated fuels, oils, fluids, lubricants, and materials are used. Mixtures of various brands, kinds, and qualities of materials should be avoided.

3. Service Points

Airplane replenishment service points are shown in Figure 2. Ground servicing of the TriStar is compatible with current servicing techniques and the majority of existing servicing equipment. The ground servicing points are located in areas that provide maximum accessibility from service vehicle platforms and optimum utilization of available ground ramp space. All loading and replenishment servicing operations can be conducted simultaneously as shown in Figure 1. Walkway areas are shown in Figure 3.

4. Scheduled Servicing

The scheduled servicing sections (12-20-00) of the servicing chapter include instructions for airplane lubrication that

require periodic attention. Assembly and installation lubrication requirements are contained in related chapters.

5. Unscheduled Servicing

The unscheduled servicing section (12-30-00) contains instructions for conditional servicing required during winter weather.

C 6. High and Low Pressure Air/Nitrogen Servicing Valves

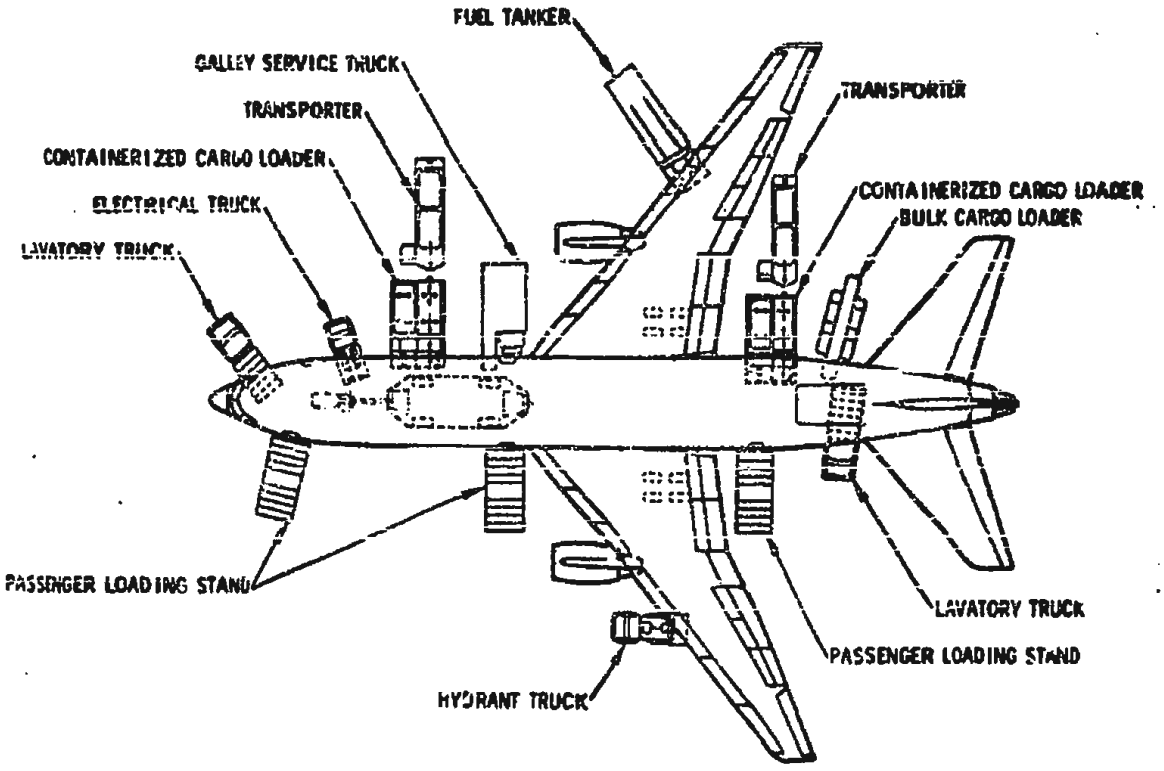
C A. High Pressure Valve, (has 7/16" diameter threaded adapter C installed)

C (1) Only high pressure valves manufactured by SCHRADER will C be used on TWA Aircraft in the future. When replacing C a high pressure valve, be sure the replacement is a C SCHRADER valve.

C (2) Do not attempt to locally fabricate a high pressure C valve by installing a threaded adapter on a low C pressure valve. Instead, obtain a high pressure valve C from stock.

CK B. Low Pressure Valve (has 5/16" diameter threads)

C (1) Action is being taken to stock only one type of low C pressure valve, for use in installations where either C MIL-H-5606 hydraulic oil and BMS3-11 hydraulic oil are C used.

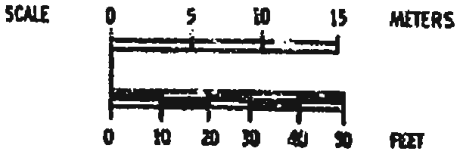


AUXILIARY POWER UNIT WILL PROVIDE:

1 ELECTRICAL POWER

2 ENGINE STARTING AIR

3 AIR CONDITIONING



NOTE

LOW-PROFILE TOW TRACTOR SHOWN UNDER AIRCRAFT. STANDARD TRACTORS MAY BE CONNECTED TO FORWARD SIDE OF NOSE GEAR.

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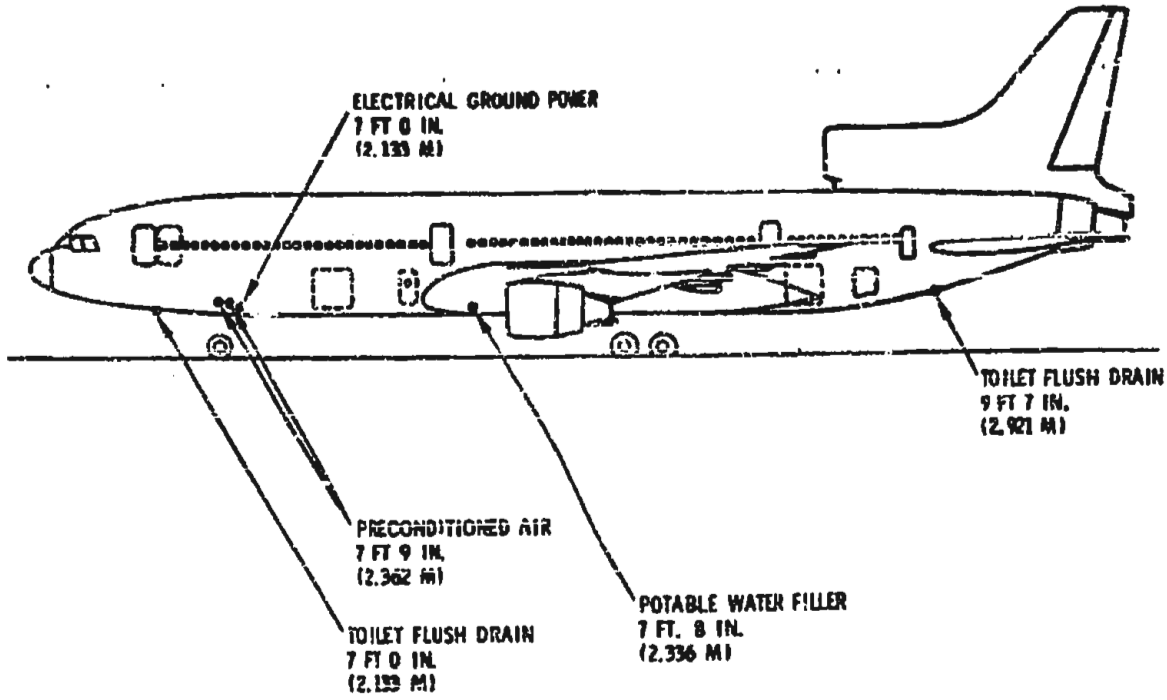
R Typical Terminal Service Arrangement
R Figure 1



NOTE
HEIGHT MEASUREMENTS GIVEN ARE FOR MAXIMUM RAMP WEIGHT OF 432,000 LB (195,918 KG), CG AT 25.5% OF MAC, AND 50 X 20 MLG TIRES

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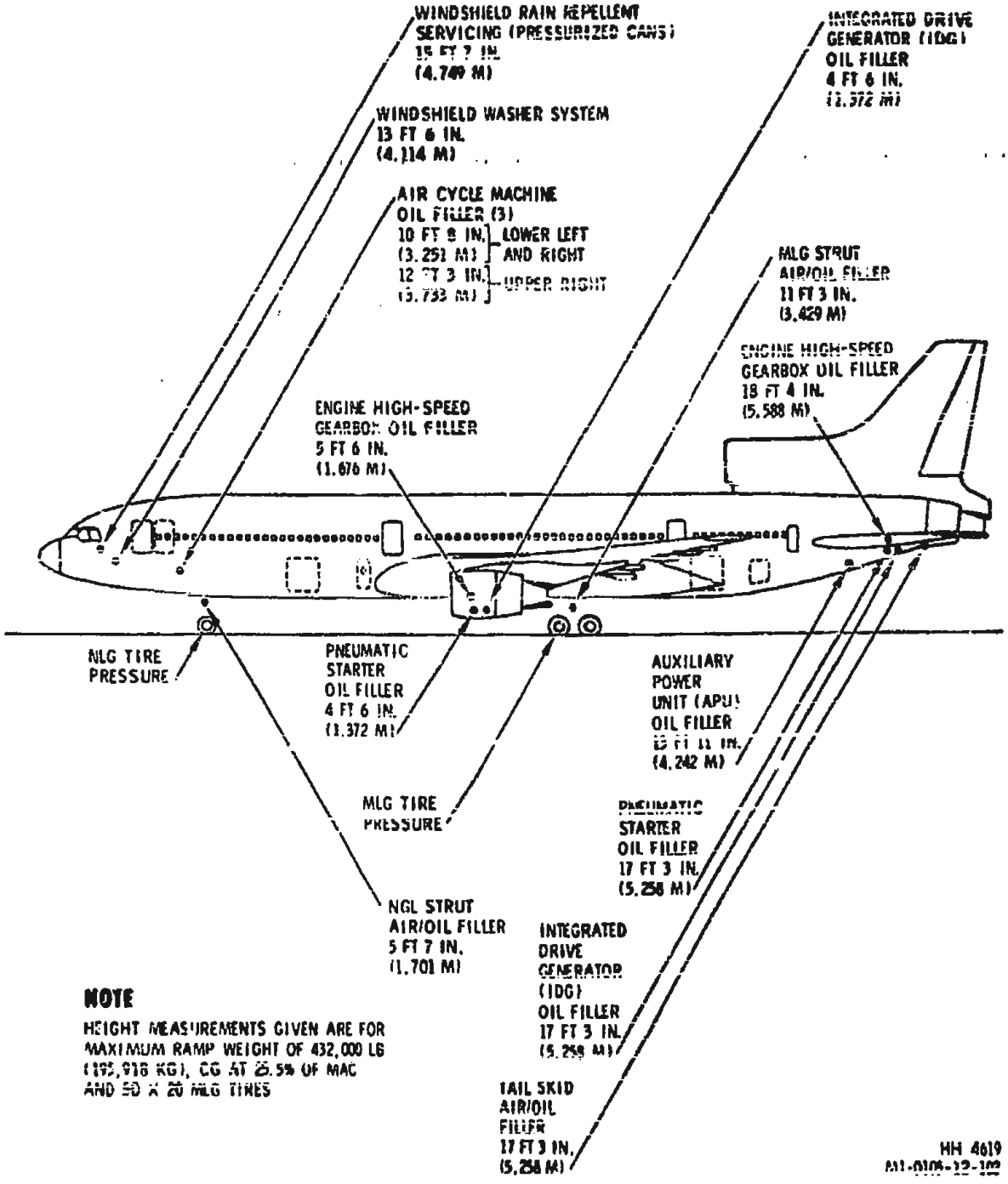
Aircraft Servicing Points
Figure 2 (Sheet 1)

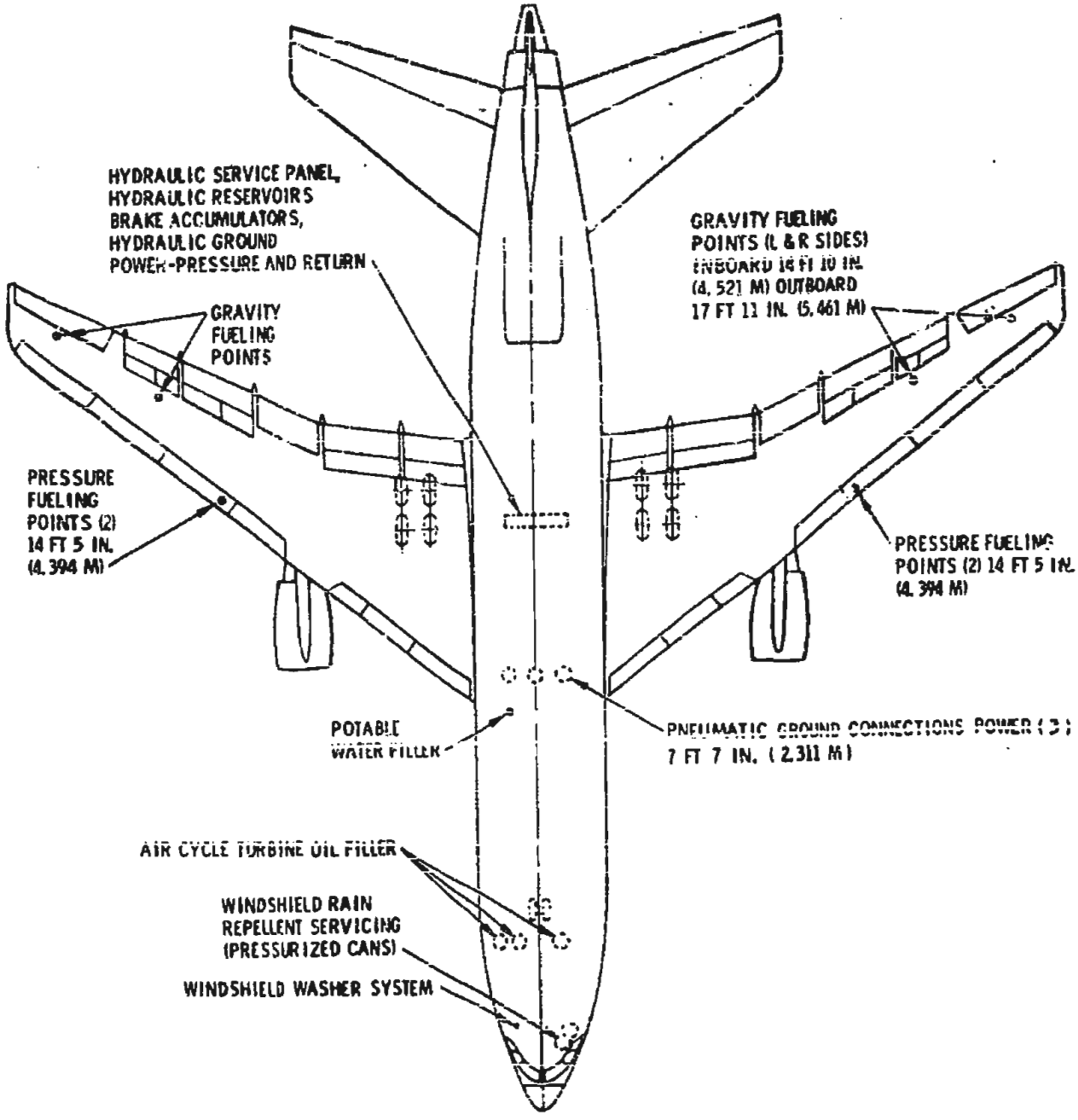

WINDSHIELD RAIN REPELLENT SERVICING (PRESSURIZED CANS)
15 FT 7 IN.
(4.749 M)
WINDSHIELD WASHER SYSTEM
13 FT 6 IN.
(4.114 M)
AIR CYCLE MACHINE OIL FILLER (3)
10 FT 8 IN. (3.251 M) LOWER LEFT AND RIGHT
12 FT 3 IN. (3.733 M) UPPER RIGHT
INTEGRATED DRIVE GENERATOR (IDG) OIL FILLER
4 FT 6 IN.
(1.372 M)
MLG STRUT AIR/OIL FILLER
11 FT 3 IN.
(3.429 M)
ENGINE HIGH-SPEED GEARBOX OIL FILLER
18 FT 4 IN.
(5.588 M)
ENGINE HIGH-SPEED GEARBOX OIL FILLER
5 FT 6 IN.
(1.676 M)
NLG TIRE PRESSURE
PNEUMATIC STARTER OIL FILLER
4 FT 6 IN.
(1.372 M)
AUXILIARY POWER UNIT (APU) OIL FILLER
13 FT 11 IN.
(4.242 M)
MLG TIRE PRESSURE
PNEUMATIC STARTER OIL FILLER
17 FT 3 IN.
(5.258 M)
NGL STRUT AIR/OIL FILLER
5 FT 7 IN.
(1.701 M)
INTEGRATED DRIVE GENERATOR (IDG) OIL FILLER
17 FT 3 IN.
(5.258 M)
TAIL SKID AIR/OIL FILLER
17 FT 3 IN.
(5.258 M)
NOTE
HEIGHT MEASUREMENTS GIVEN ARE FOR MAXIMUM RAMP WEIGHT OF 432,000 LB (195,918 KG), CG AT 25.5% OF MAC AND 50 X 20 MLG TIRES
HH 4619

R
R

Aircraft Servicing Points
Figure 2 (Sheet 2)

EFFECTIVITY: ALL

001B


HYDRAULIC SERVICE PANEL, HYDRAULIC RESERVOIRS BRAKE ACCUMULATORS, HYDRAULIC GROUND POWER-PRESSURE AND RETURN
GRAVITY FUELING POINTS
GRAVITY FUELING POINTS (L & R SIDES) INBOARD 16 FT 10 IN. (4, 521 M) OUTBOARD 17 FT 11 IN. (5, 461 M)
PRESSURE FUELING POINTS (2) 14 FT 5 IN. (4, 394 M)
PRESSURE FUELING POINTS (2) 14 FT 5 IN. (4, 394 M)
POTABLE WATER FILLER
PNEUMATIC GROUND CONNECTIONS POWER (3) 7 FT 7 IN. (2.311 M)
AIR CYCLE TURBINE OIL FILLER
WINDSHIELD RAIN REPELLENT SERVICING (PRESSURIZED CANS)
WINDSHIELD WASHER SYSTEM

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R

Aircraft Servicing Points
Figure 2 (Sheet 3)

EFFECTIVITY: ALL

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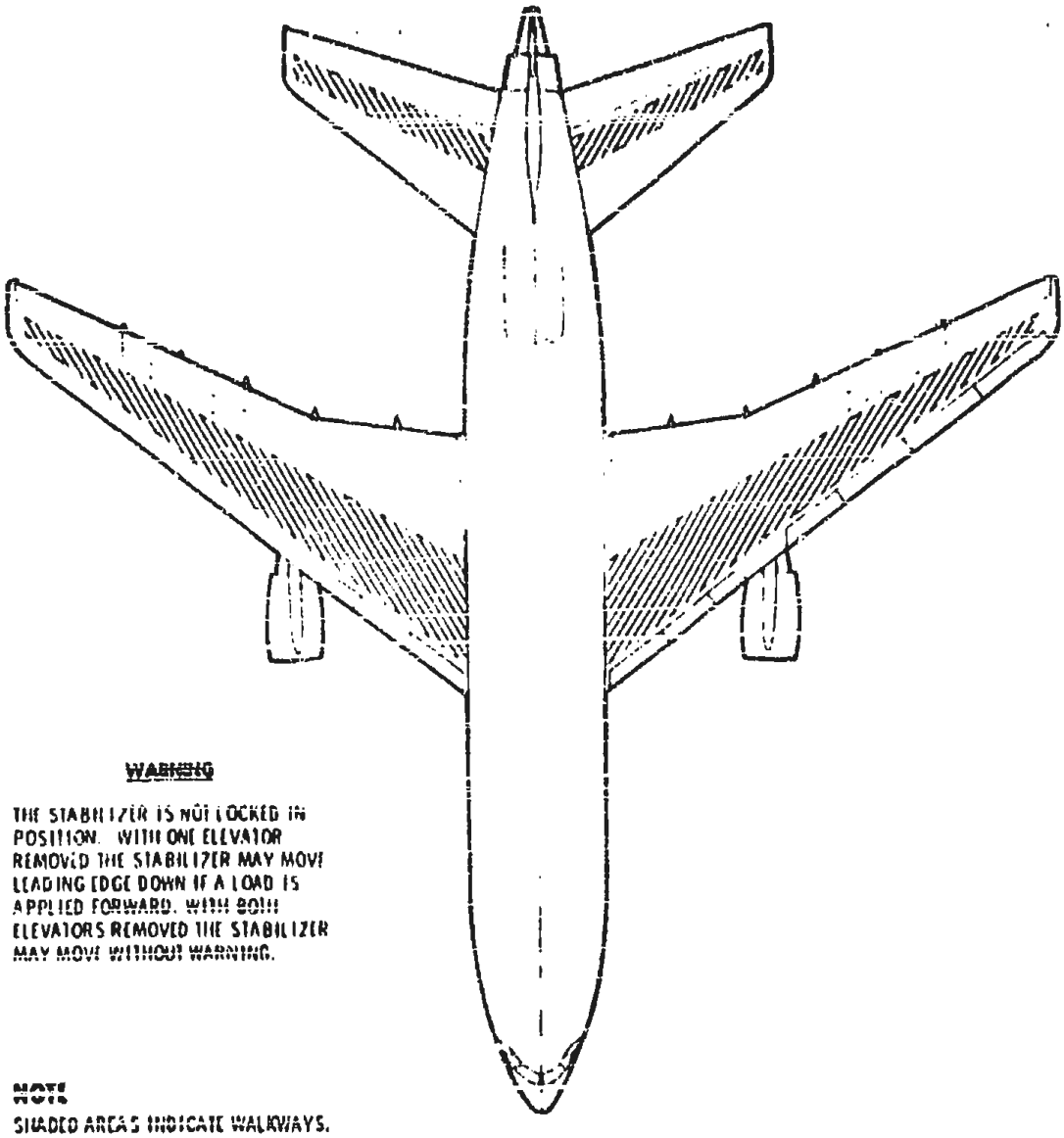

WARNING

THE STABILIZER IS NOT LOCKED IN POSITION. WITH ONE ELEVATOR REMOVED THE STABILIZER MAY MOVE LEADING EDGE DOWN IF A LOAD IS APPLIED FORWARD. WITH BOTH ELEVATORS REMOVED THE STABILIZER MAY MOVE WITHOUT WARNING.

NOTE

SHADED AREAS INDICATE WALKWAYS. ALL OTHER AREAS ARE NO STEP AREAS

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Walkway Areas
Figure 3

AIRPLANE REPLENISHING - DESCRIPTION AND OPERATION

1. General

The replenishment sections of the servicing chapter contain instructions and procedures required to ensure proper supplies of fuel, lubricants, water, hydraulic fluid, etc., and provides additional replenishment services required for the proper operation of the airplane. System and components requiring replenishment servicing are the fuel system, engine oil systems, auxiliary power unit, engine pneumatic starters, integrated drive generators, air turbine motors, air cycle machine, hydraulic systems reservoirs, potable and waste water systems, crew oxygen system, rain repellent system, windshield washer system, landing gear shock struts, and tires.

Only approved fuels, oils, lubricants and materials, as recommended herein, should be used. Proper servicing techniques under clean environmental conditions are necessary to ensure trouble-free functioning of the various systems that require replenishment servicing.

To avoid contamination of systems, dispense fluids from clean, sealed containers. Verify that replenishment materials are compatible with those currently in service. Avoid mixing of various brands, kinds, and qualities of materials and/or products.

FUEL SYSTEM REPLENISHING

1. General

Instructions and procedures for the replenishment of fuel are contained in this section.

C 2. Fueling the L-1011 With Number Two Engine Operating

C A. It is permissible to fuel the aircraft with the number TWO C engine running.

C B. The following specific rules must be applied and this C procedure should only be used when necessitated by C operational situations.

CR (1) The aircraft and fueler (s) or hydrant cart (s) are CR bonded in an approved manner for normal fueling.

C (2) Use pressure fueling only. Do NOT use over-wing C gravity fillers.

C (3) All normal "fueling operation" precautions should be C taken.

C (4) Only personnel qualified to operate engines should be C allowed to operate number two engine during fueling.

C (5) Communications should be established and maintained C between fueling station and flight station.

C (6) Under no circumstances should engines one or three be C operated while fueling.

C FUEL QUANTITY MEASUREMENT - MAINTENANCE PRACTICES

C 1. Fuel Density

C A. When it becomes necessary to adjust fuel calculations due to
CR the aircrafts location, refer to Figure 201 for correct
CR average fuel density for various locations.

CR B. Daily fuel density should be obtained from the
CR vendor/inplane agent or by TWA personnel using a hydrometer.
CR The density reading should be taken just prior to fueling
CR aircraft or as close as practical. This density is then
CR entered into the fuel management system (FMS) and is good
CR only for that calendar day.

CR If it is not possible to obtain a daily fuel density, use
CR the following tables. If the station and monthly density is
CR not listed, use a density of 6.7C lbs/gal for JET A (A-1)
CR fuel and 6.40 lbs/gal for JET B (JP-4) fuel. The fuel
CR density tables are stored in the FMS program. If the daily
CR fuel density is not entered, FMS will default to the table
CR values.

CR FMS is not programmed for JET B fuel. Use 6.40 lbs/gal.

CR (Tables follow)

AVERAGE FUEL DENSITY (LBS/GAL) FOR VARIOUS STATIONS

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
ABQ	6.79	6.79	6.77	6.75	6.74	6.71	6.70	6.70	6.71	6.77	6.75	6.79
ALO	6.72	6.72	6.72	6.74	6.68	6.71	6.72	6.66	6.70	6.69	6.71	6.71
AMS	6.67	6.72	6.66	6.69	6.65	6.67	6.64	6.67	6.68	6.67	6.69	6.71
ANC	6.84	6.80	6.78	6.77	6.76	6.76	6.72	6.76	6.77	6.82	6.81	6.84
ARN	6.67	6.72	6.66	6.69	6.65	6.67	6.64	6.67	6.68	6.67	6.69	6.71
ATH	6.60	6.63	6.61	6.57	6.55	6.54	6.50	6.50	6.53	6.60	6.55	6.60
ATL	6.82	6.81	6.82	6.83	6.80	6.80	6.78	6.77	6.77	6.81	6.78	6.81
AUS	6.77	6.79	6.78	6.76	6.77	6.76	6.78	6.80	6.83	6.83	6.82	6.76
BCN	6.65	6.69	6.66	6.64	6.62	6.61	6.56	6.57	6.59	6.62	6.62	6.63
BDL	6.82	6.75	6.81	6.77	6.79	6.78	6.79	6.76	6.80	6.83	6.83	6.82

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
BNA	6.75	6.75	6.75	6.75	6.71	6.70	6.70	6.70	6.70	6.70	6.70	6.74
BOM	6.52	6.52	6.51	6.49	6.47	6.47	6.50	6.52	6.52	6.50	6.50	6.52
BOS	6.75	6.80	6.71	6.77	6.75	6.72	6.68	6.67	6.69	6.71	6.75	6.75
BRU	6.79	6.79	6.72	6.72	6.72	6.73	6.72	6.69	6.72	6.72	6.70	6.74
BUR	6.80	6.80	6.76	6.75	6.72	6.77	6.77	6.79	6.75	6.74	6.73	6.78
BWI	6.85	6.82	6.82	6.80	6.77	6.75	6.73	6.74	6.75	6.82	6.79	6.83
CAI	6.60	6.59	6.56	6.54	6.52	6.50	6.50	6.55	6.55	6.55	6.56	6.61
CDG	6.65	6.66	6.66	6.64	6.61	6.59	6.58	6.59	6.60	6.60	6.59	6.62
CID	6.72	6.72	6.72	6.74	6.68	6.71	6.72	6.66	6.70	6.69	6.71	6.71
CLE	6.80	6.79	6.78	6.77	6.75	6.75	6.74	6.76	6.77	6.78	6.78	6.77

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CLT	6.81	6.70	6.77	6.76	6.77	6.75	6.74	6.73	6.73	6.75	6.76	6.77
CMH	6.85	6.77	6.72	6.73	6.71	6.71	6.69	6.67	6.69	6.69	6.68	6.70
CMI	6.81	6.79	6.76	6.74	6.68	6.69	6.73	6.74	6.76	6.78	6.79	6.81
COS	6.77	6.76	6.72	6.72	6.74	6.71	6.70	6.70	6.73	6.74	6.77	6.78
CPH	6.67	6.72	6.66	6.69	6.65	6.67	6.64	6.67	6.68	6.67	6.69	6.71
CVG	6.84	6.80	6.77	6.71	6.69	6.70	6.68	6.68	6.70	6.80	6.74	6.82
DAY	6.84	6.80	6.77	6.71	6.69	6.70	6.68	6.68	6.70	6.80	6.74	6.82
DCA	6.80	6.79	6.77	6.77	6.73	6.76	6.76	6.75	6.75	6.80	6.79	6.80
DEN	6.77	6.76	6.72	6.72	6.74	6.71	6.70	6.70	6.73	6.74	6.77	6.78
DFW	6.77	6.75	6.79	6.79	6.82	6.79	6.80	6.78	6.79	6.80	6.78	6.77

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
DSM	6.72	6.72	6.72	6.74	6.68	6.71	6.72	6.66	6.70	6.69	6.71	6.71
DTW	6.79	6.79	6.79	6.80	6.77	6.79	6.77	6.78	6.81	6.81	6.81	6.79
EWR	6.83	6.80	6.79	6.79	6.76	6.76	6.73	6.73	6.75	6.76	6.80	6.81
FCO	6.62	6.58	6.63	6.62	6.58	6.56	6.56	6.56	6.59	6.58	6.60	6.60
FLL	6.74	6.70	6.70	6.70	6.71	6.72	6.71	6.72	6.71	6.71	6.70	6.72
FPO	6.76	6.69	6.72	6.71	6.71	6.72	6.72	6.72	6.71	6.73	6.74	6.73
FRA	6.71	6.75	6.70	6.68	6.66	6.64	6.63	6.64	6.66	6.64	6.64	6.68
FSD	6.79	6.85	6.80	6.77	6.74	6.72	6.71	6.73	6.74	6.76	6.78	6.79
GEN	6.67	6.72	6.66	6.69	6.65	6.67	6.64	6.67	6.68	6.67	6.69	6.71
GVA	6.71	6.73	6.75	6.70	6.67	6.64	6.59	6.61	6.60	6.61	6.65	6.70

AVERAGE FUEL DENSITY (LBS/GAL) FOR VARIOUS STATIONS

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
HAM	6.71	6.75	6.70	6.68	6.66	6.64	6.65	6.64	6.66	6.64	6.64	6.68
HNL	6.67	6.64	6.62	6.62	6.63	6.58	6.57	6.59	6.58	6.61	6.63	6.65
HOU	6.82	6.83	6.78	6.79	6.80	6.69	6.71	6.74	6.76	6.80	6.78	6.79
IAD	6.80	6.79	6.77	6.77	6.73	6.76	6.76	6.75	6.75	6.80	6.79	6.80
IAH	6.82	6.83	6.78	6.79	6.80	6.69	6.71	6.74	6.76	6.80	6.78	6.79
ICT	6.85	6.83	6.81	6.77	6.74	6.73	6.73	6.73	6.73	6.76	6.81	6.84
IND	6.70	6.73	6.69	6.70	6.69	6.68	6.65	6.68	6.68	6.69	6.69	6.69
IST	6.60	6.63	6.61	6.57	6.55	6.54	6.50	6.50	6.53	6.60	6.55	6.60
JAX	6.76	6.74	6.75	6.76	6.76	6.73	6.73	6.75	6.75	6.75	6.77	6.78
JFK	6.81	6.83	6.80	6.79	6.74	6.73	6.70	6.69	6.73	6.76	6.80	6.81

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
LAS	6.74	6.72	6.71	6.71	6.68	6.67	6.66	6.67	6.72	6.76	6.78	6.79
LAX	6.80	6.80	6.76	6.75	6.72	6.77	6.77	6.79	6.75	6.74	6.73	6.78
LEX	6.84	6.80	6.77	6.71	6.69	6.70	6.68	6.68	6.70	6.80	6.74	6.82
LGA	6.82	6.82	6.80	6.81	6.75	6.75	6.74	6.72	6.74	6.80	6.82	6.82
LGB	6.80	6.80	6.76	6.75	6.72	6.77	6.77	6.79	6.75	6.74	6.73	6.78
LGW	6.72	6.71	6.71	6.70	6.68	6.66	6.64	6.65	6.67	6.66	6.68	6.70
LHR	6.72	6.71	6.71	6.70	6.68	6.66	6.64	6.65	6.67	6.66	6.68	6.70
LIS	6.65	6.67	6.67	6.67	6.66	6.66	6.65	6.65	6.66	6.67	6.67	6.65
LIT	6.75	6.78	6.77	6.75	6.71	6.69	6.68	6.67	6.69	6.74	6.74	6.75
LNK	6.79	6.85	6.80	6.77	6.74	6.72	6.71	6.73	6.74	6.76	6.78	6.79

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MAD	6.65	6.69	6.66	6.64	6.62	6.61	6.56	6.57	6.59	6.62	6.62	6.63
MCI	6.80	6.79	6.79	6.77	6.75	6.71	6.69	6.67	6.68	6.71	6.76	6.78
MCO	6.73	6.76	6.73	6.72	6.71	6.65	6.67	6.70	6.70	6.76	6.75	6.76
MDT	6.83	6.82	6.80	6.77	6.77	6.77	6.73	6.74	6.76	6.77	6.79	6.79
MDW	6.74	6.84	6.77	6.75	6.77	6.75	6.76	6.75	6.77	6.78	6.78	6.76
MEM	6.76	6.78	6.74	6.71	6.71	6.70	6.70	6.70	6.72	6.75	6.74	6.75
MIA	6.70	6.78	6.77	6.75	6.77	6.76	6.73	6.73	6.68	6.63	6.64	6.70
MKE	6.86	6.86	6.85	6.79	6.77	6.75	6.74	6.75	6.76	6.80	6.82	6.84
MLI	6.77	6.77	6.76	6.75	6.72	6.70	6.72	6.70	6.73	6.75	6.75	6.77
MSN	6.86	6.86	6.85	6.79	6.77	6.75	6.74	6.75	6.76	6.80	6.82	6.84

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MSP	6.90	6.91	6.90	6.82	6.80	6.77	6.76	6.78	6.77	6.82	6.85	6.87
MSY	6.82	6.83	6.78	6.79	6.80	6.69	6.71	6.74	6.76	6.80	6.78	6.79
MUC	6.72	6.80	6.72	6.68	6.64	6.69	6.70	6.61	6.60	6.62	6.65	6.68
MXP	6.68	6.71	6.66	6.64	6.60	6.58	6.55	6.54	6.56	6.58	6.63	6.67
NAS	6.77	6.78	6.77	6.75	6.77	6.76	6.73	6.73	6.68	6.63	6.73	6.72
OAK	6.86	6.85	6.84	6.83	6.82	6.81	6.81	6.81	6.81	6.82	6.84	6.85
OKC	6.78	6.76	6.74	6.72	6.72	6.70	6.69	6.68	6.70	6.72	6.75	6.76
OMA	6.79	6.85	6.80	6.77	6.74	6.72	6.71	6.73	6.74	6.76	6.78	6.79
ONT	6.80	6.80	6.76	6.75	6.72	6.77	6.77	6.79	6.75	6.74	6.73	6.79
ORD	6.74	6.84	6.77	6.75	6.77	6.75	6.76	6.75	6.77	6.78	6.78	6.76

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CR FUEL DENSITY TABLE
CR Figure 201 (Sheet 2)

EFFECTIVITY: ALL

001B

AVERAGE FUEL DENSITY (LBS/GAL) FOR VARIOUS STATIONS

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
ORF	6.80	6.78	6.72	6.72	6.75	6.70	6.73	6.73	6.73	6.75	6.74	6.75
PBI	6.78	6.67	6.74	6.72	6.73	6.73	6.74	6.73	6.73	6.76	6.78	6.75
PDX	6.73	6.74	6.75	6.74	6.72	6.72	6.76	6.74	6.71	6.71	6.71	6.71
PHL	6.85	6.84	6.84	6.83	6.83	6.80	6.76	6.77	6.79	6.79	6.83	6.82
PHX	6.77	6.77	6.74	6.73	6.70	6.67	6.66	6.67	6.72	6.75	6.76	6.78
PIA	6.80	6.84	6.81	6.78	6.77	6.75	6.74	6.76	6.77	6.76	6.79	6.78
PIT	6.82	6.80	6.78	6.74	6.72	6.74	6.71	6.74	6.73	6.75	6.75	6.76
PSP	6.77	6.77	6.74	6.73	6.70	6.67	6.68	6.67	6.72	6.75	6.75	6.79
PUB	6.77	6.76	6.72	6.72	6.74	6.71	6.70	6.70	6.73	6.74	6.77	6.78
RDU	6.80	6.78	6.72	6.72	6.75	6.70	6.73	6.73	6.73	6.75	6.74	6.75

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RST	6.86	6.86	6.85	6.79	6.77	6.75	6.74	6.75	6.76	6.80	6.82	6.84
RSW	6.70	6.78	6.77	6.75	6.77	6.76	6.73	6.73	6.68	6.63	6.64	6.70
SAN	6.80	6.80	6.78	6.75	6.72	6.77	6.77	6.78	6.75	6.74	6.73	6.76
SAT	6.77	6.79	6.78	6.76	6.77	6.76	6.78	6.80	6.82	6.83	6.82	6.75
SDF	6.81	6.77	6.76	6.74	6.72	6.70	6.71	6.73	6.76	6.76	6.78	6.81
SEA	6.73	6.74	6.75	6.74	6.72	6.72	6.76	6.74	6.71	6.71	6.71	6.71
SFO	6.77	6.77	6.76	6.75	6.72	6.74	6.77	6.75	6.73	6.72	6.72	6.76
SGF	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70
SJC	6.77	6.77	6.76	6.75	6.72	6.74	6.77	6.76	6.73	6.72	6.72	6.76
SJU	6.57	6.68	6.67	6.67	6.64	6.63	6.61	6.59	6.62	6.58	6.59	6.57

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SLC	6.71	6.71	6.71	6.71	6.71	6.63	6.50	6.50	6.59	6.71	6.71	6.71
SNA	6.80	6.80	6.76	6.75	6.72	6.77	6.77	6.79	6.75	6.74	6.73	6.78
SRQ	6.70	6.76	6.73	6.72	6.71	6.65	6.67	6.70	6.76	6.67	6.65	6.69
STL	6.81	6.79	6.76	6.74	6.68	6.69	6.73	6.74	6.76	6.78	6.79	6.81
STR	6.76	6.75	6.70	6.68	6.66	6.64	6.63	6.64	6.66	6.64	6.66	6.67
SUX	6.75	6.78	6.76	6.75	6.71	6.71	6.71	6.70	6.72	6.72	6.74	6.75
SYR	6.79	6.79	6.79	6.80	6.77	6.79	6.77	6.78	6.81	6.81	6.81	6.79
TLV	6.66	6.66	6.64	6.62	6.61	6.59	6.59	6.58	6.58	6.60	6.64	6.66
TOL	6.81	6.82	6.76	6.70	6.69	6.70	6.67	6.70	6.70	6.74	6.79	6.82
TPA	6.73	6.76	6.73	6.72	6.71	6.65	6.67	6.70	6.76	6.78	6.75	6.76

STA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TUL	6.69	6.74	6.70	6.71	6.70	6.70	6.70	6.69	6.68	6.69	6.69	6.69
TUS	6.77	6.77	6.74	6.73	6.70	6.67	6.66	6.67	6.72	6.75	6.75	6.78
TXL	6.71	6.75	6.70	6.68	6.65	6.64	6.63	6.64	6.66	6.64	6.64	6.68
VIE	6.72	6.80	6.72	6.68	6.64	6.69	6.70	6.61	6.60	6.62	6.69	6.69
ZRH	6.74	6.74	6.71	6.70	6.66	6.63	6.61	6.62	6.64	6.66	6.69	6.72

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CR
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FUEL DENSITY TABLE
Figure 201 (Sheet 5)

EFFECTIVITY: ALL

0018

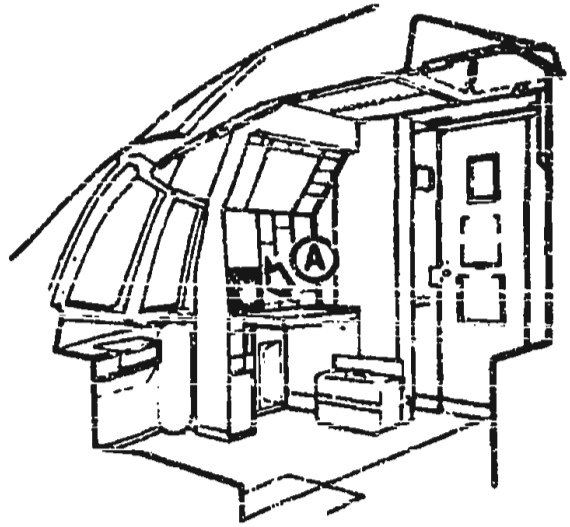
FUEL QUANTITY MEASUREMENT - SERVICING

1. Servicing

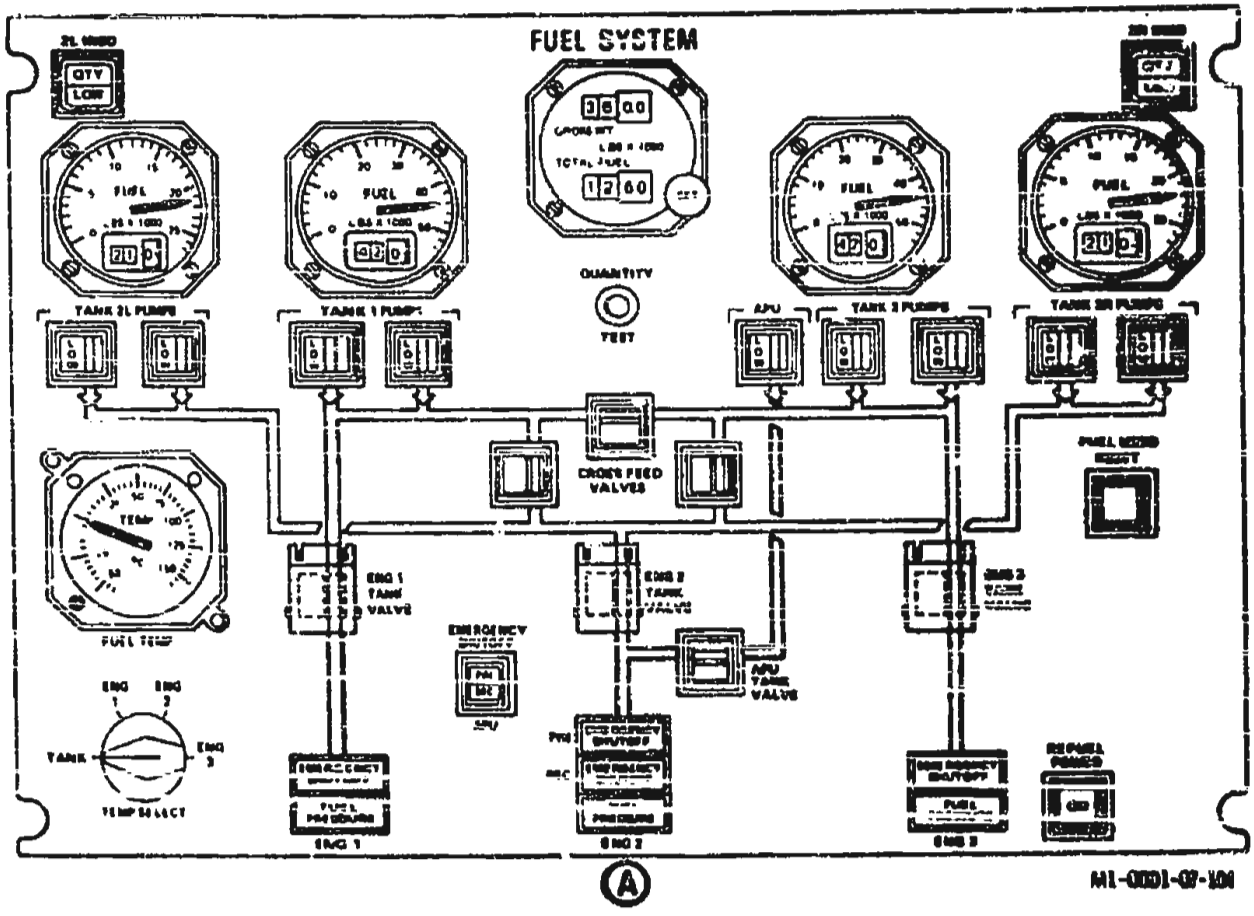
R Tank 1, 2L, 2R, and 3 fuel quantity is displayed on eight
R analog/digital fuel quantity indicators. Four indicators are
R installed on the flight station FUEL SYSTEM panel, zone 215
R (Ref. Fig. 301) and four on the fueling/defueling panels, zone
R 621 (Ref. Fig. 302). In addition, a digital indication of total
R fuel (and aircraft gross weight) is displayed by a totalizer
R indicator on the FUEL SYSTEM panel.

R The quantity of fuel in the tank 2L and 2R inboard sections only
R is displayed on the respective tank 2L and 2R indicators when
R appropriate FUEL SYSTEM panel switches are latched in.

Wing tank fuel quantity can also be determined by using 12 stick type fuel level sight gages which are accessible from underwing locations (Ref. Figure 303).

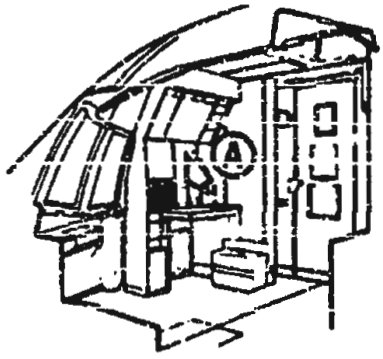


FLIGHT ENGINEER/SECOND OFFICERS STATION
ZONE 215

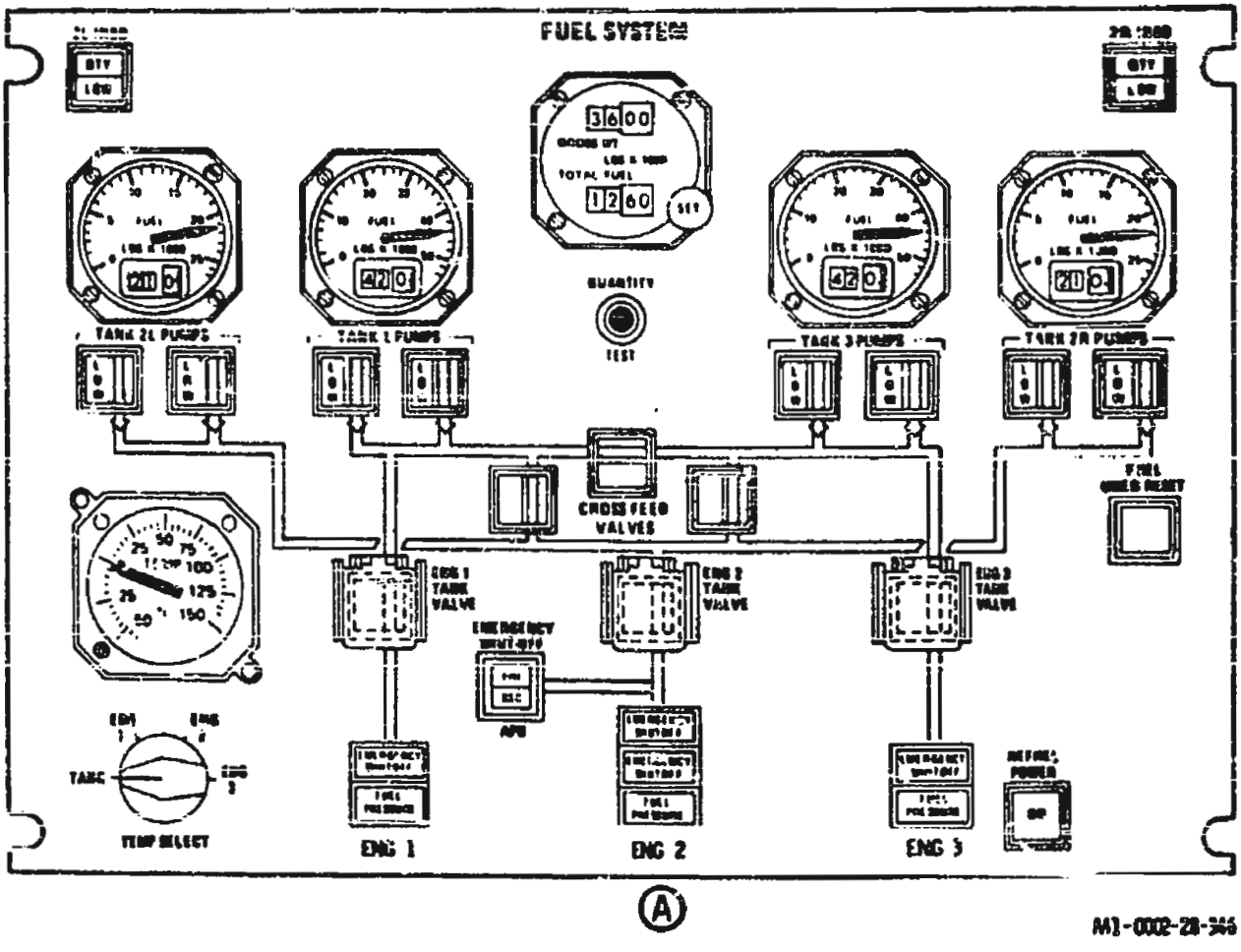


Fuel Quantity Indicators, Flight Engineer/Second Officers Fuel System Panel
Figure 301

EFFECTIVITY: 001-016 WITHOUT SB28-019

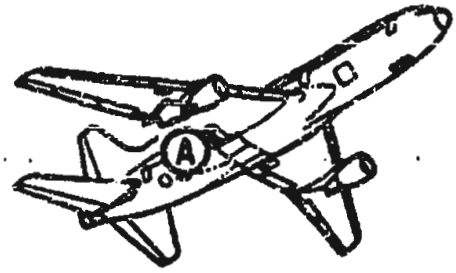


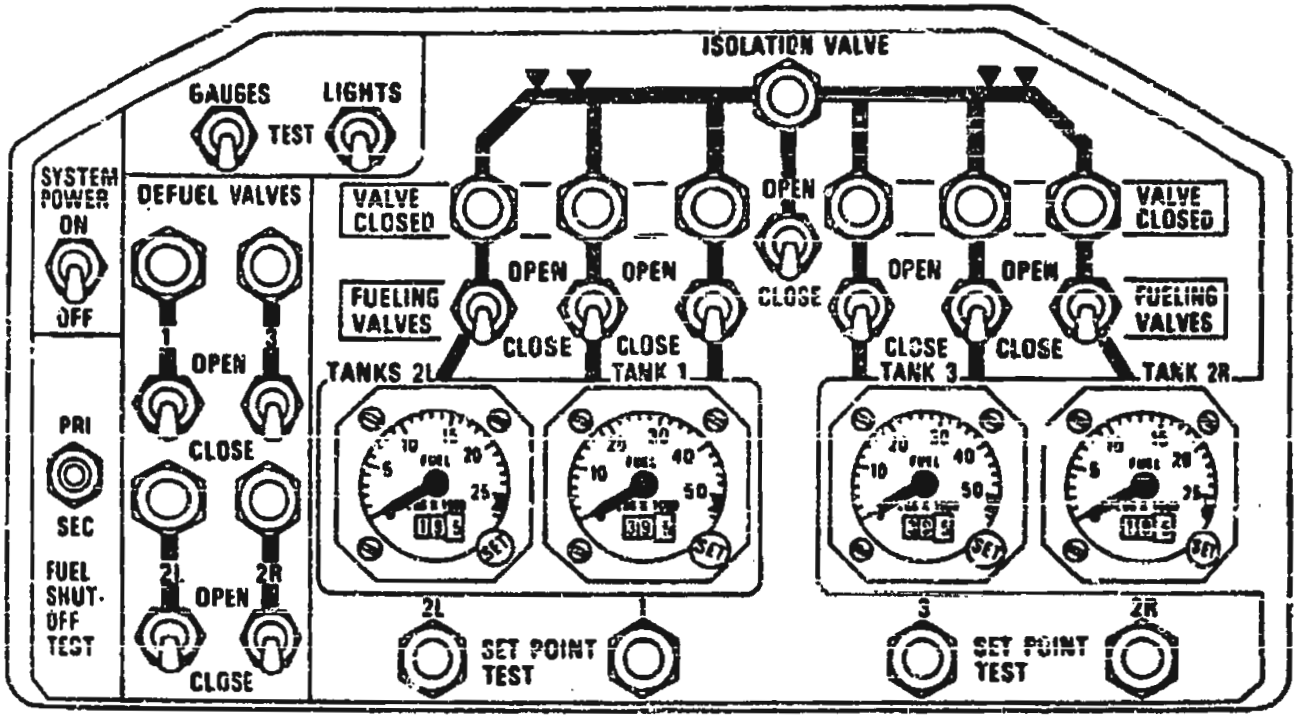
FLIGHT ENGINEER/SECOUND OFFICERS STATION
ZONE 215



Fuel Quantity Indicators, Flight Engineer/Second Officers
Fuel System Panel
Figure 301

EFFECTIVITY: 001-016 WITH SB28-019,
017-024, 027





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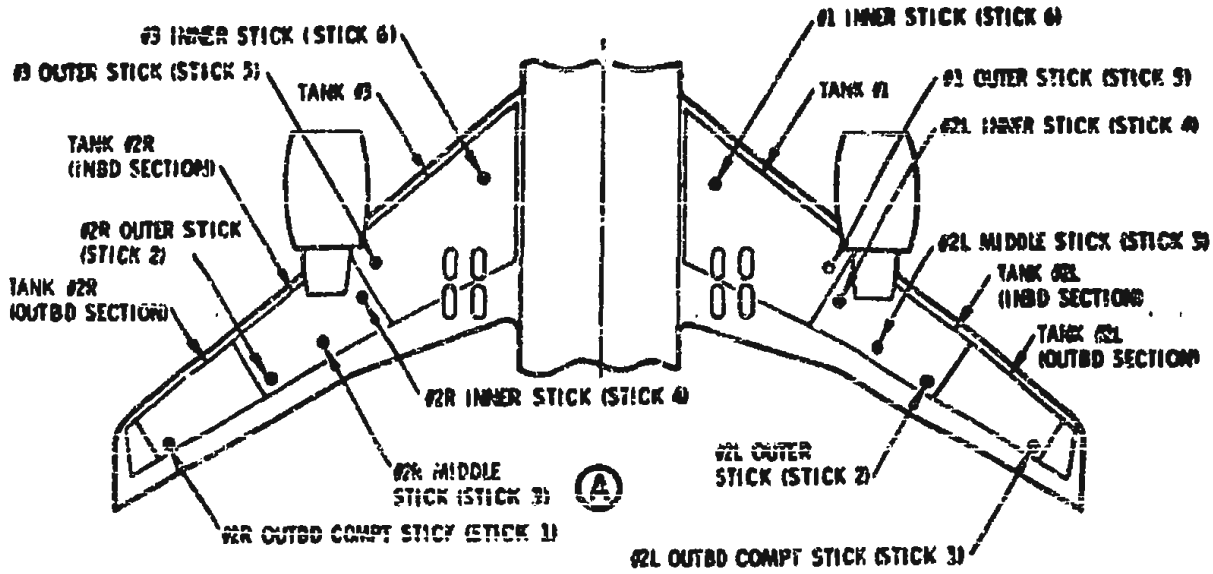
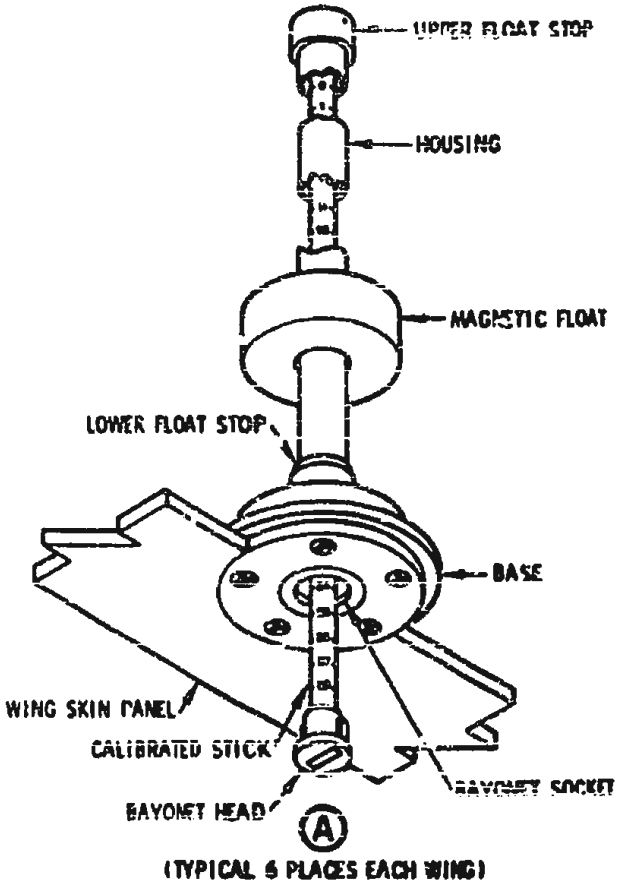
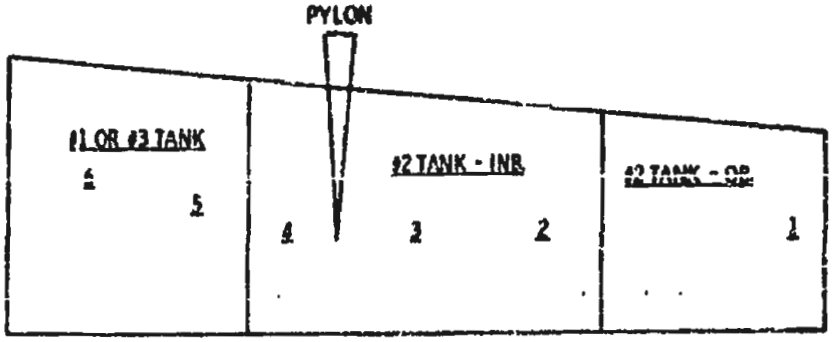
Fuel Quantity Indicators, Fueling/Defueling Panel
Figure 302





(TYPICAL 6 PLACES EACH WING)

Fuel Level Sight Gages
Figure 303



DRIPLESS STICK NUMBERS

NOTE: ALL STICK READINGS ARE IN POUNDS, READ QUANTITY AT SKIN LINE

STICK NUMBER	TANK LOCATION	TWA STK. NBR. MFG P/N	CALIBRATED IN POUNDS	NOTES
1	2L & 2R OUTBOARD	TWA 19-3662 MFG 724409-159	7500 TO 8250	A. IF STICK READING IS ABOVE 8250 CONSIDER TANK FUEL LEVEL TO BE 8670#'s
2	2L & 2R INBOARD	TWA 19-4410 MFG 724409-211	8000 TO 16500	A. USE WHEN FUEL LEVEL IS ABOVE 12000#'s B. IF THIS STICK INDICATES A FUEL LEVEL LESS THAN 12000#'s, USE STICK #3
3	2L & 2R INBOARD	TWA 19-3660 MFG 724409-155	3250 TO 13250	A. USE WHEN FUEL LEVEL IS BETWEEN 8250 AND 12000#'s B. IF THIS STICK INDICATES A FUEL LEVEL LESS THAN 8250, USE STICK #4. C. IF THIS STICK INDICATES A FUEL LEVEL MORE THAN 12000#'s, USE STICK #2
4	2L & 2R INBOARD	TWA 19-4409 MFG 724409-203	1750 TO 8250	A. USE WHEN FUEL LEVEL IS BETWEEN 1750 AND 8250#'s
5	1 & 3	TWA 19-4411 MFG 724409-201	34000 TO 54000	A. USE WHEN FUEL LEVEL IS OVER 45000#'s B. IF THIS STICK INDICATES A FUEL LEVEL LESS THAN 45000, USE STICK #6
6	1 & 3	TWA 19-3657 MFG 724409-149	5500 TO 47000	A. USE WHEN FUEL LEVEL IS BETWEEN 5500 AND 45000#'s B. IF THIS STICK INDICATES A FUEL LEVEL MORE THAN 45000#'s, USE STICK #5

SPECIAL FUEL TANK NOTES

TANKS	NOTES
1 & 3	FUEL LEVELS LESS THAN 5500#'s ARE NON-STICKABLE
2R & 2L INBOARD	FUEL LEVELS LESS THAN 1750#'s ARE NON-STICKABLE
2R & 2L OUTBOARD	FUEL LEVELS LESS THAN 7500#'s ARE NON-STICKABLE
2R & 2L	A. ADD INBOARD AND OUTBOARD TANK STICK READINGS FOR THE CORRECT TOTAL IN 2R & 2L B. APPROXIMATELY 1200#'s OF FUEL IS MAINTAINED IN THE INBOARD SECTION DUE TO A FLOAT OPERATED VALVE, WHICH ALLOWS FUEL TO TRANSFER FROM THE OUTBOARD SECTION

NOTE: CORRECTION TABLES ARE REQUIRED WHEN AIRCRAFT IS NOT LEVEL

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CR
CR

Fuel Level Sight Gage Operation
Figure 304

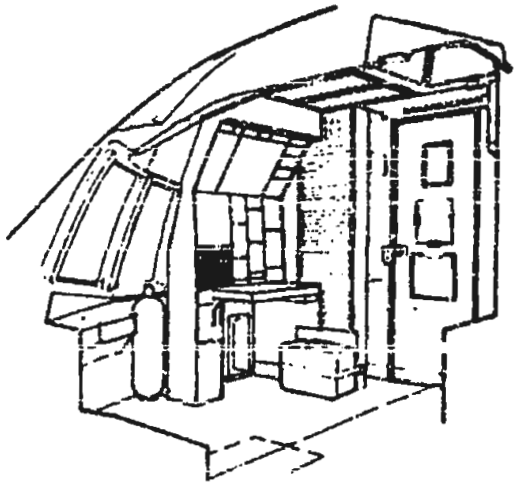
FUEL QUANTITY MEASUREMENT - SERVICING

1. Servicing

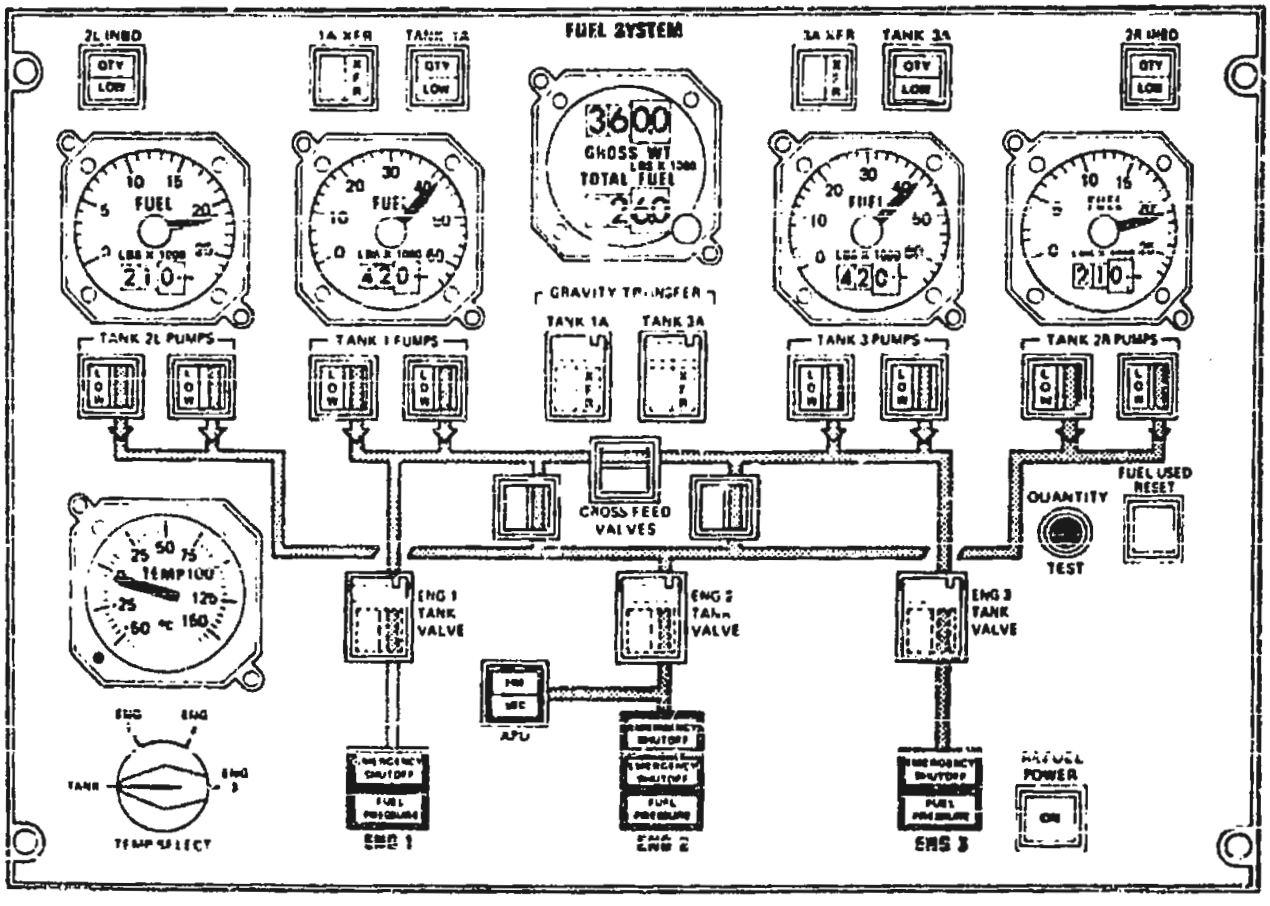
Tank 1, 2L, 2R, and 3 fuel quantity is displayed on eight analog/digital fuel quantity indicators. Four indicators are installed on the flight station FUEL SYSTEM panel, zone 215 (Ref. Fig. 301) and four on the fueling/defueling panel, zone 621 (Ref. Fig. 302). In addition, a digital indication of total fuel (and aircraft gross weight) is displayed by a totalizer indicator on the FUEL SYSTEM panel.

The quantity of fuel in the tank 2L and 2R inboard sections only is displayed on the respective 2L or 2R indicator when appropriate FUEL SYSTEM panel switches are latched in. Similar switches display the quantity of fuel in wing center section tanks 1A and 3A only on the tank 1 and 3 indicators.

Wing tank fuel quantity can also be determined by using 12 stick type fuel level sight gages which are accessible from underwing locations (Ref. Figure 303). One similar fuel level sight gage (Ref. Fig. 303) is located in each of the wing center section tanks. These sticks extend through the Keelson area below the wing center section box to accessible locations in the fuselage fairings.



FLIGHT ENGINEER/SECOND OFFICERS STATION
ZONE 215



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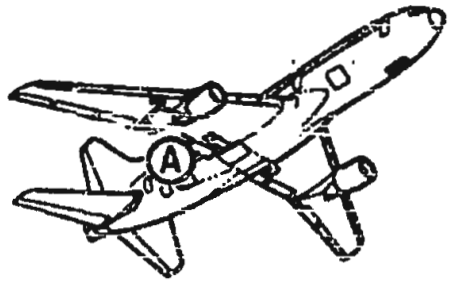
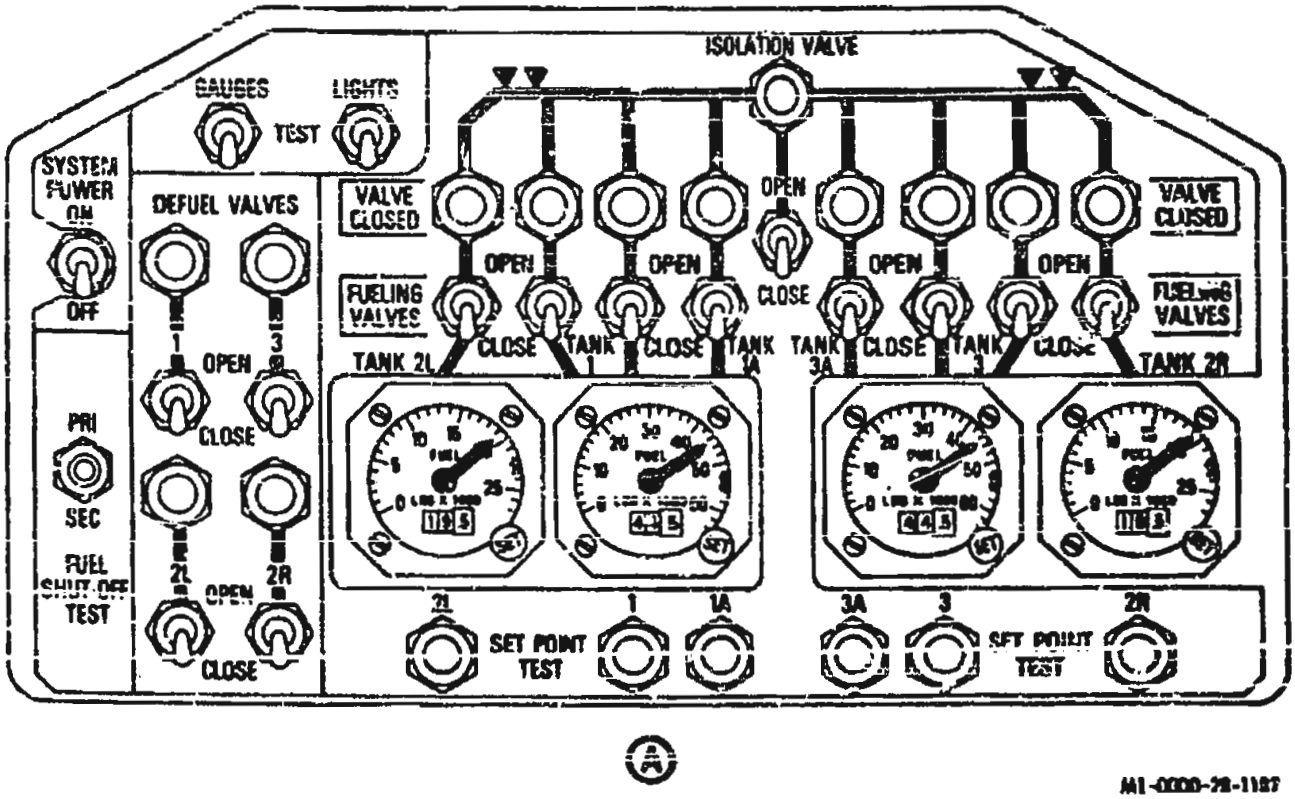
Fuel Quantity Indicators, Flight Engineer/Second Officers
Fuel System Panel
Figure 301

R EFFECTIVITY: 025-026, 028-999
R





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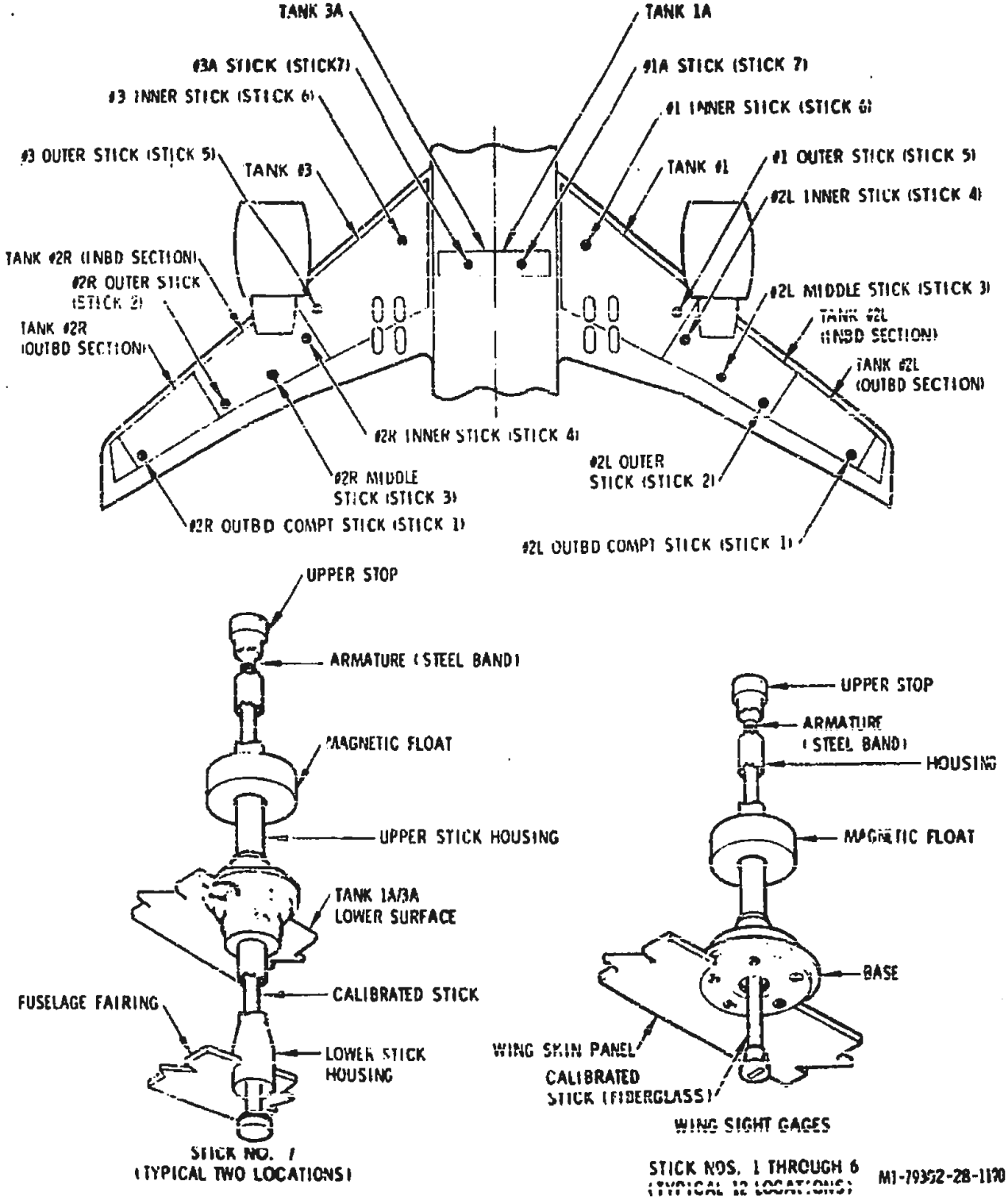
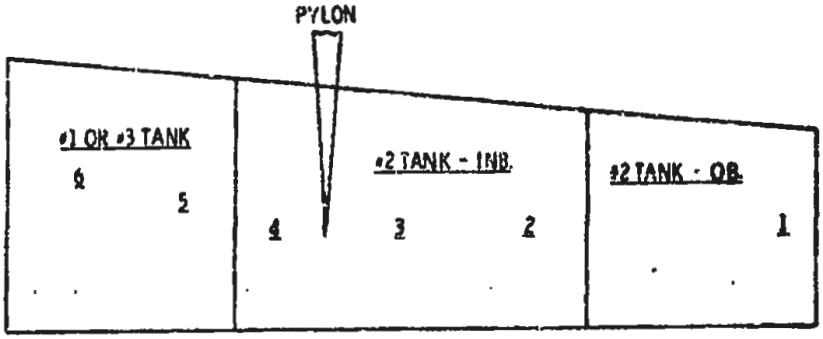
Fuel Quantity Indicators, Fueling/Defueling Panel
Figure 302



Fuel Level Sight Gages
Figure 303



DRIPLESS STICK NUMBERS

NOTE: ALL STICK READINGS ARE IN POUNDS. READ QUANTITY AT SKIN LINE.

STICK NUMBER	TANK LOCATION	TWA STK. NBR. MFG. P/N	CALIBRATED IN POUNDS	NOTES
1	2L & 2R OUTBOARD	TWA 19-3662 MFG 724409-159	7500 TO 8250	A. IF STICK READING IS ABOVE 8250 CONSIDER TANK FUEL LEVEL TO BE 8670#'s
2	2L & 2R INBOARD	TWA 19-4410 MFG 724409-211	8000 TO 16500	A. USE WHEN FUEL LEVEL IS ABOVE 12000#'s B. IF THIS STICK INDICATES A FUEL LEVEL LESS THAN 12000#'s, USE STICK #3
3	2L & 2R INBOARD	TWA 19-3660 MFG 724409-155	3250 TO 13250	A. USE WHEN FUEL LEVEL IS BETWEEN 8250 AND 12000#'s B. IF THIS STICK INDICATES A FUEL LEVEL LESS THAN 8250, USE STICK #4. C. IF THIS STICK INDICATES A FUEL LEVEL MORE THAN 12000#'s. USE STICK #2
4	2L & 2R INBOARD	TWA 19-4409 MFG 724409-203	1750 TO 8250	A. USE WHEN FUEL LEVEL IS BETWEEN 1750 AND 8250#'s
5	1 & 3	TWA 19-4411 MFG 724409-201	34000 TO 54000	A. USE WHEN FUEL LEVEL IS OVER 45000#'s B. IF THIS STICK INDICATES A FUEL LEVEL LESS THAN 45000, USE STICK #6
6	1 & 3	TWA 19-3657 MFG 724409-149	5500 TO 47000	A. USE WHEN FUEL LEVEL IS BETWEEN 5500 AND 45000#'s B. IF THIS STICK INDICATES A FUEL LEVEL MORE THAN 45000#'s, USE STICK #5
7	1A & 3A	TWA 19-4654 MFG 724504-115	100 TO 10,000	

SPECIAL FUEL TANK NOTES

TANKS	NOTES
1 & 3	FUEL LEVELS LESS THAN 5500#'s ARE NON-STICKABLE
2R & 2L INBOARD	FUEL LEVELS LESS THAN 1750#'s ARE NON-STICKABLE
2R & 2L OUTBOARD	FUEL LEVELS LESS THAN 7500#'s ARE NON-STICKABLE
2R & 2L	A. ADD INBOARD AND OUTBOARD TANK STICK READINGS FOR THE CORRECT TOTAL IN 2R & 2L B. APPROXIMATELY 1200#'s OF FUEL IS MAINTAINED IN THE INBOARD SECTION DUE TO A FLOAT OPERATED VALVE, WHICH ALLOWS FUEL TO TRANSFER FROM THE OUTBOARD SECTION
1A & 3A	

NOTE: CORRECTION TABLES ARE REQUIRED WHEN AIRCRAFT IS NOT LEVEL

M1-0000-12-485

C
C

Fuel Level Sight Gage Operation
Figure 304

R
R

EFFECTIVITY: 025-026, 028-999

FUEL SYSTEM - SERVICING

1. Servicing

Table 301 reflects fuel tank capacities in pounds, kilograms, U.S. gallons, imperial gallons, and liters. All tank capacities include a 2-percent expansion space. Each wing tank contains a surge box holding approximately 1000 U.S. pounds of fuel. A
R total of approximately 240 pounds of unusable fuel will be retained in a fully defueled aircraft. Fuel weight is based on 6.7 lbs/U.S. gallon.

Replenish aircraft fuel system with aviation fuel conforming to specifications shown in Table 302.

R A. Optional Additives

R The only optional additives that may be used in approved
R fuels are as follows:

R (1) Anti-static additives

R (a) Shell ASA 3 in concentrations not exceeding 1.0
R mg/l

R (b) Stadis 450 in concentrations not exceeding 3.0
R mg/l

R (c) Re-doping

R NOTE: When it is necessary to re-dope fuel, as
R determined by conductivity level, the
R following re-doping procedure is approved.

R Re-doping with the same additive:

R • ASA 3 in cumulative total of 2 mg/l maximum

R • Stadis 450 in cumulative total of 5 mg/l
R maximum

R Re-doping with a change of additive:

R • ASA 3 further additions not to exceed 1 mg/l

R • Stadis 450 further additions not to exceed 2mg/l

(2) Anti-icing additive

(a) Specification MIL-I-27686E or D. Eng. R.D. 2451 (Issue 2 and 3) in concentrations not exceeding 0.15 percent by volume.

(3) Anti-microbiological additive

(a) Methyl Cellosolve

R Whenever Methyl Cellosolve is used, it is permissable to burn off the treated fuel in the engine, always provided it is diluted such that the concentration of methyl cellosolve does not exceed 0.15 per cent by volume and that it is not visually contaminated with microbiological debris.

(b) Biobor JF

Biobor JF may be used on an intermittent or non-continuous basis (Ref. 28-11-00) at a concentration level not exceeding 270 ppm (total Boron content not to exceed 20 ppm).

R It is permitted to burn off the treated fuel, always provided the concentration does not exceed 270 ppm, and fuel is visually free of microbiological contaminates.

As there are a number of Biobor products, care should be taken that only Biobor JF is used. During flight operations following the use of "Biobor" treatments, a careful watch should be maintained on fuel low pressure warning signals and/or fuel filter differential pressure warning signals. Further, filters will initially require monitoring and may possibly require service life adjustment based on operator experience.

R (c) Kathon FP 1.5

R Kathon FP 1.5 may be used on a continuous,
R intermittent, or non-continuous basis.

R Whenever this additive is used, it is permissable
R to burn off the treated fuel in the engine, always
R provided that the concentration does not exceed 50
R parts per million for continuous usage and 100
R parts per million for intermittent or
R non-continuous usage and that such fuel is not
R visually contaminated with microbiological debris.

R During flight operations following the use of
R "Kathon FP 1.5" treatments, a careful watch should
R be maintained on fuel low pressure warning signals

R and/or fuel filter differential pressure warning
R signals. Further, filters will initially require
R monitoring and may possibly require service life
R adjustment based on operator experience.

(4) Corrosion Inhibitor/Lubricity Aids

ADDITIVE	CONCENTRATION RANGE GRAMS PER CUBIC METER	
	MINIMUM*	MAXIMUM
Hitec E515	11.4	21
Apollo PRI19	8.6	23
Tolad 245	21.4	34
Hitec 580	8.6	23
DuPont DCI 4A	8.4	23
Nalco 5403	8.6	23

NOTE: With the exception of Tolad 245, the list complies with D.Eng.R.D. 2461 in respect to maximum allowable concentration.

* The minimum requirement is to ensure that sufficient additive is available when it is required to act as a lubricity aid. Lubricity aids have proven to be effective in combating H.P. fuel pump wear, particularly on the non-carbon standard piston type

Tank Capacities (Aircraft 001-024, 027)
Table 301

TANK	POUNDS	KG	US GALLONS	IMP GALLONS	LITERS
1 OR 3	54,130	24,555	8,079	6,727	30,582
2L OR 2R INBD	16,980	7,702	2,534	2,110	9,592
2L OR 2L OUTBD	8,670	3,933	1,294	1,077	4,898
TOTAL	159,560	72,376	23,814	19,828	90,144

Tank Capacities (Aircraft 001-024, 027)
Table 301

TANK	POUNDS	KG	US GALLONS	IMP GALLONS	LITERS
1 OR 3	54,130	24,553	8,079	6,727	30,582
2L OR 2R INBD	16,980	7,702	2,534	2,110	9,592
2L OR 2L OUTBD	8,670	3,933	1,294	1,077	4,898
TOTAL	159,560	72,376	23,814	19,828	90,144

R

Approved Fuels
Table 302

GRADE (TYPE)	SPECIFICATION
Kerosene Type (AVTUR: JP.1)	D.Eng.R.D.2453 Issue 5 Am 2 D.Eng.R.D.2494 Issue 10 A.S.T.M. D1655-89 JET A A.S.T.M. D1655-89 JET A-1 CAN/CGSB 3.23-M86 (Canadian) MIL-T-83133A (JP.8) I.A.T.A. 1988 Kerosene Type AIR 3405/C (French) U.S.S.R. T-1, TS-1, and RT (GOST 10227-86) U.S.S.R. T-7 (GOST 12308-66) Romanian State (3754/73) (CS-3) Romanian State STAS 5639
Wide Cut Fuels (AVTAG: JP.4)	D.Eng.R.D.2454 Issue 4 Am 2 D.Eng.R.D.2486 Issue 9 A.S.T.M. D1655-89 JET B I.A.T.A. 1987 JP.4 type CAN/CGSB 3.22-M86 (Canadian) MIL-T-5624N JP.4 grade TL 9130-006 Issue 6 (German) AIR 3407/B (French) U.S.S.R T-2 (GOST 10227-86)
High Flash Point (AVCAT: JP.5)	D.Eng.R.D.2498 Issue 7 3-GP-24Ma(86) (Canadian) MIL-T-5624N JP.5 grade TL 9130-007 Issue 4 (German) D.Eng.R.D.2452 Issue 2 Am 3 AIR 3404/C (French)

NOTE: Fuel Specifications D.Eng.R.D.2453 and D.Eng.R.D.2454 already include a corrosion inhibitor to D.Eng.R.D. 2461 and anti-icing additive to Specification D.Eng.R.D.2451 (Issue 2 or later issue) to approved limitations. D.Eng.R.D.2452 includes anti-icing additive.

B. Approved Deviations

Fuels with the following deviations from Specification D.Eng.R.D.2494 are acceptable e.g. USSR T1 and TS-1, USSR T-7, USSR RT, and Canadian CAN/CGSB 3.23-M86. Flash point - Minimum 28 deg.C. (82.4 deg.F.) Mercaptan sulphur - Maximum 0.005 percent by weight.

Tank Capacities (Aircraft 025-206, 028-033)
Table 301

TANK	POUNDS	KG	US GALLONS	IMP GALLONS	LITERS
1 OR 3	53,970	24,480	8,055	6,707	30,490
1A OR 3A	9,560	4,336	1,427	1,188	5,402
2L OR 2R INBD	16,980	7,702	2,534	2,110	9,592
2L OR 2R OUTBD	8,670	3,933	1,294	1,077	4,898
TOTAL	178,360	80,902	26,620	22,164	100,764

C. Exceptions to Fuel Specifications

Operators may use aviation jet fuels which deviate from approved specifications in aromatic content to 25 per cent by volume maximum and smoke point 18 mm. minimum (IP-57 test method).

Although flight safety and short term engine condition should not be affected, an increase in aromatic content and reduction in smoke point may have some long term effects on combustion and turbine hardware due to the production of more carbon particles causing an increase in flame radiation and hence metal temperature.

D. Mixing of Fuels

Mixing of approved fuels is permissable, subject to any limitations in the Flight Manual.

E. Wide-cut Fuels

The use of wide-cut fuel as agreed to by the operator, Rolls-Royce, and the appropriate airworthiness authority, may result in a reduction in H.P. fuel pump life.

C 2. Deleted

C 3. Refueling With Fuel Quantity Indicator Inoperative

C A. Tank 2L or 2R (with aircraft fuel loads of 64,000 pounds or C more) or Tank 1 or 3 (with all aircraft fuel loads).

C (1) Record operative indicator readings in "BEFORE FUELING C COLUMN" on M180. Enter "INOP" in "BEFORE FUELING C COLUMN" for Inoperative tank indicator.

C (2) Load fuel in tanks with operative indicators to planned C quantity. Record final fuel quantities in "AFTER C FUELING COLUMN". Compute calculated add and enter C truck meter reading on M180. Check to assure within C allowable tolerance.

C (3) Determine dripstick(s) to be used in tank with C inoperative indicator. Extend dripstick(s) to make C sure magnetic float is attached. Refuel tank by C monitoring stick movement to planned quantity. Stick C quantity must be verified by two individuals per GP&P C 8-4-1. Cross out initial truck meter quantity on M180 C and record final values.

C B. Tank 2L or 2R for Fuel Load Less than 64,000 Pounds

C (1) Transfer all the fuel from tank with inoperative
C indicator into the adjacent tank (1 or 3). The tank
C with the inoperative indicator must be completely
C empty.

C (2) The servicing personnel will operate the fueling
CR station and qualified servicing
CR personnel/maintenance/Flight Engineer will operate the
C cockpit fuel panel to empty the tank using the
C following procedure.

C (a) At the right wing fueling station:

C 1) Turn on the system power switch.

C 2) Open the DEFUELING VALVE of the tank with the
C inoperative indicator.

C 3) Open the FUELING VALVE of the adjacent tank.

C (b) In the cockpit;

C 1) Turn on both tank fuel boost pumps in the
C tank with the inoperative indicator.

C 2) Operate the tank pumps until their low
C pressure lights come on and stay on steady.

C 3) Turn boost pumps off.

C (c) When the tank is empty, close the DEFUELING VALVE
C and FUELING VALVE at the right wing fueling
C station.

C (3) Record operative indicator readings in "BEFORE FUELING
C COLUMN" on M180. Enter "INOP" in "BEFORE FUELING
C COLUMN" for the inoperative tank indicator.

C (4) Load fuel in tanks with operative indicators to planned
C quantity.

C (5) Load fuel for the tank with inoperative indicator in
C adjacent tank (1 or 3).

C (6) Record final fuel quantities in "AFTER FUELING COLUMN"
C on M180. Compute calculated add and enter truck meter
C reading on M180. Check to assure within allowable
C tolerance.

CR (7) If within tolerance, the qualified servicing
CR personnel/maintenance/Flight Engineer will transfer the
C appropriate amount of fuel from the adjacent tank (1 or
C 3) into the tank with the inoperative indicator using
C the following procedure.

C CAUTION: DURING TANK TO TANK TRANSFER WITH AN
C INOPERATIVE GAUGE, ASSURE THAT THE FUELING
C HOSE VALVE IS CLOSED OR THAT THE FUEL HOSE
C HAS BEEN DISCONNECTED WHEN FUEL IS BEING
C TRANSFERRED FROM THE FUEL TANK WITH THE
C OPERATIVE GAUGE TO THE FUEL TANK WITH THE
C INOPERATIVE GAUGE TO PREVENT THE POSSIBILITY
C OF BACKFLOWING FUEL INTO THE FUEL TRUCK OR
C FUEL TERMINAL.

C (a) The servicing personnel at the right wing fueling
C station:

C 1) Turn on the system power switch.

C 2) Open the DEFUELING VALVE of the tank to be
C reduced in quantity (1 or 3).

C 3) Open the FUELING VALVE of the receiving tank
C (2L or 2R).

CR (b) The qualified servicing
CR personnel/maintenance/Flight Engineer in the
C cockpit;

C 1) Turn on both tank fuel boost pumps in the
C tank to be reduced in quantity (1 or 3).

C 2) Turn off the tank pumps when the desired
C amount of fuel has been transferred.

C (8) During the transfer, the servicing personnel will
C monitor the wing gauge and when the planned
C distribution is observed on the supplying tank, close
C the appropriate fueling and defueling valves, shut off
C system power switch and secure fueling panel.

C (9) The servicing personnel will cross out the initial
C "AFTER FUELING", figure of the tank which fuel was
C transferred from and enter final reading on the M180.
C Enter the quantity figure for the inop tank in the
C "AFTER FUELING COLUMN" and sign for panel security.

C 4. Fuel Transfer

C NOTE: Electrical power must be available from the APU or ground
C power.

C A. Open the fueling/defueling panel on the right wing and turn
C the system power switch to ON.

C B. Test the fuel gauges, lights and set points.

C C. If transferring fuel from wing to wing, place the isolation
C valve switch to open.

C D. Rotate the set knob(s) to the desired fuel quantity and open
C the fueling valve(s) for the tank(s) that fuel is to be
C transferred into.

C E. Place the defuel valve switch to open for the tank that the
C fuel is to be transferred out of.

C F. At the flight engineer's fuel system panel, turn on the fuel
C tank boost pump(s) for the tank that fuel is to be
C transferred out of.

C CAUTION: IF THE FUEL QUANTITY GAUGE IS INOPERATIVE FOR THE TANK
C THAT THE FUEL IS BEING TRANSFERRED OUT OF AND THE TANK
C IS TO BE COMPLETELY DEFUELED, TURN OFF THE FUEL TANK
C BOOST PUMP(S) WHEN THE PUMP LOW PRESSURE LIGHT(S) COME
C ON.

C G. When the desired fuel quantity has been transferred, turn
C off the fuel tank boost pump(s).

C H. At the fueling/defueling panel, close the isolation valve
C switch and fueling valve(s).

C I. Turn off the system power switch and close the
C fueling/defueling panel.

FUEL LEVEL SIGHT GAGES - SERVICING

1. General

A. Sight Gages

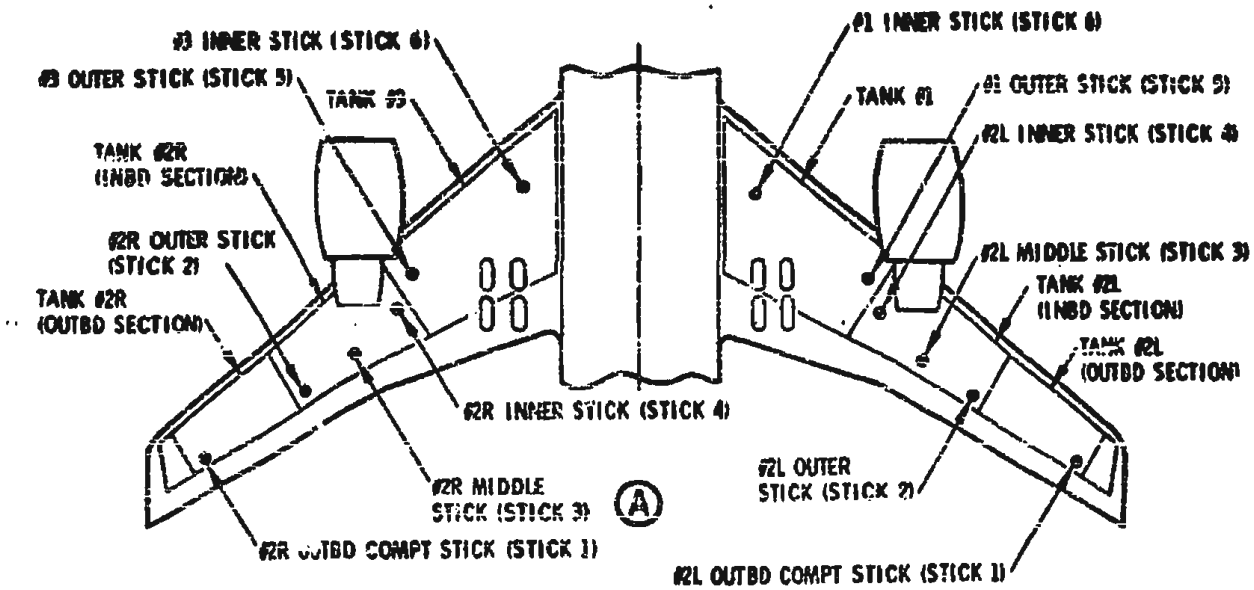
Float type, calibrated stick, fuel level sight gages permit visual verification of fuel tank quantity from underwing locations. Twelve gages are flush mounted in and supported by the lower wing skin panels. Two gages are installed in tanks 1 and 3, three in the inboard sections of tanks 2L and 2R, and one each in the tank 2L and 2R outboard sections (Ref. Fig. 301).

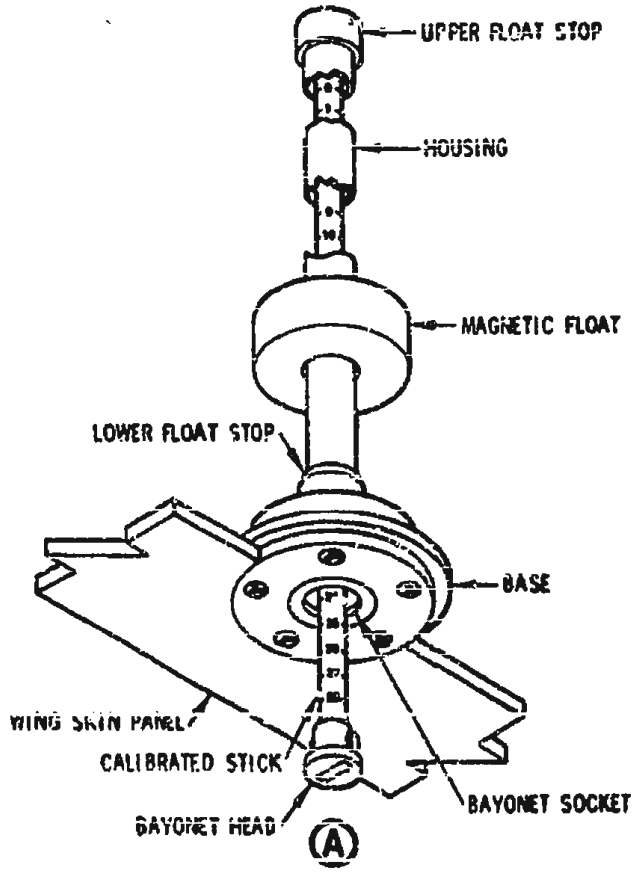
On aircraft 025-026, 028-999, two additional gages are installed in the lower surfaces of the tank 1A and 3A wing center section tanks. The calibrated sticks of these gages extend through the keelson area to externally accessible locations flush with the fuselage keelson fairing.

Each sight gage consists of a sealed mounting base, a sealed tubular housing containing a calibrated fuel measuring stick, and a float. The float is installed concentrically around the housing and is free to rise and fall with the fuel level. A ferrous metal armature is attached to the upper end of the stick and a permanent magnet is embedded in the float. In operation, a magnetic coupling between armature and float causes the stick to rise or fall with the float. The fuel level is reflected in the amount of stick that protrudes below the wing or fuselage fairing surfaces. Fuel level is read from the calibration mark on the stick that aligns with the lower wing skin or fuselage fairing surface. When the stick is manually retracted and locked in its stowed position, the magnetic coupling between armature and float is broken and the float falls to the fuel level where it remains until the next measurement.

B. Aircraft Attitude Correction Tables

The fuel level sight gages provide a quick means of accurately verifying that the fuel tanks have been serviced in accordance with the fuel loading schedule. The sight gages, however, are calibrated to show a direct readout of fuel quantity (in pounds) for an aircraft that has been serviced with fuel having a density of 6.7 pounds per gallon and is both longitudinally and laterally level. Appreciable inaccuracies in fuel loading can result for each degree of variance from level, especially in the roll axis, if reliance is placed upon direct sight gage readings. Hence,





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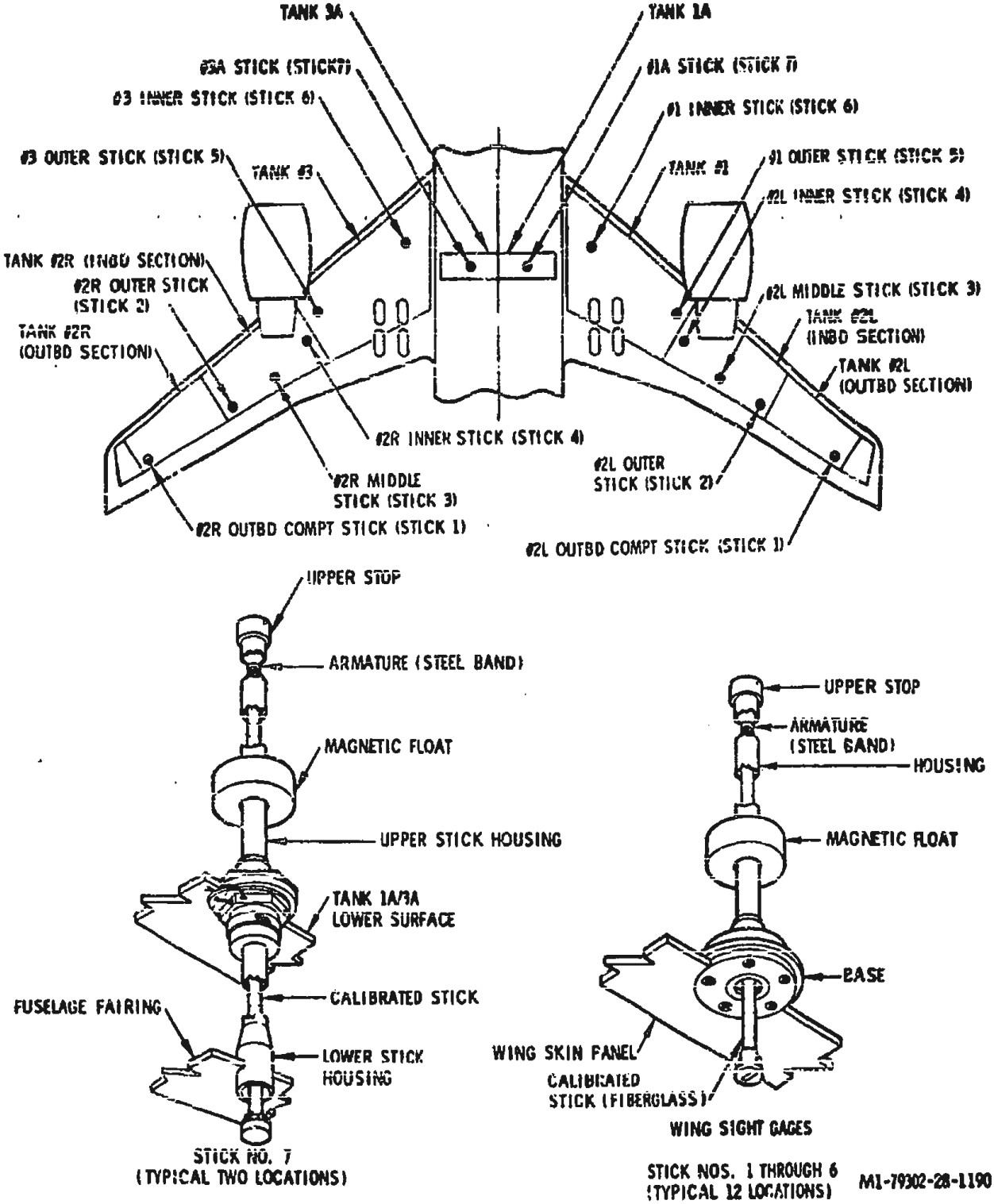
(TYPICAL 6 PLACES EACH WING)

R R Fuel Level Sight Gage Locations
Figure 301



R Fuel Level Sight Gage Locations
R Figure 301

the requirement that refueling be accomplished only when the aircraft is within plus or minus 3 degrees of longitudinal and lateral level position. To compensate for inaccuracy in sight gage readouts within the above range, attitude correction tables have been included in this section of the manual.

Attitude correction fuel quantity tables contained herein provide measurement data for an aircraft in attitudes ranging from level to plus or minus three degrees of pitch and roll.

2. Referenced Procedure

8-12-00 Leveling, Spirit Level - Maintenance Practices

28-24-00 Engine Feed System - Adjustment and Test

3. Fuel Level Sight Gage Operation

A. Obtain Corrected Sight Gage Reading as follows:

(1) Determine aircraft pitch and roll attitude by referring to the spirit levels located in the left main wheel
R well (Ref. 8-12-00 Fig. 201).

R NOTE: Reference 8-12-00 is for location of spirit
R levels only; use following procedure to
R determine attitude of aircraft.

(a) Cut lock-wire, if installed, and loosen wing nut located in center of both level device plates.

(b) Move pitch attitude level device plate slowly forward or aft to center bubble in spirit level vial. Record indicator plate reading when bubble is centered.

NOTE: If level device plate was moved forward to center bubble in spirit level vial, indicator plate readout will represent DEGREES - NOSE DOWN. If level device plate was moved aft, readout will be DEGREES - NOSE UP.

(c) Move roll attitude level device plate slowly inboard or outboard to center bubble in spirit level vial. Record indicator plate reading when bubble is centered.

NOTE: If level device plate was moved inboard to center bubble in spirit level vial, indicator plate readout will represent left wing UP. If level device plate was moved outboard, readout will be left wing DOWN.

(d) Once pitch and roll attitudes have been determined and recorded, re-set level device plates to 0-degrees and tighten wing nuts. (Wing nuts are self-locking; lock-wire is not required.)

(2) Depress and rotate the sight gage bayonet head 90 degrees counterclockwise (Ref. Fig. 302).

(3) Withdraw the stick slowly until it magnetically couples to the float. Pull quickly downward to break the magnetic coupling.

(4) Using fingertip pressure, slowly move the stick upward until a sudden upward movement indicates that the stick is again magnetically coupled with the float.

(5) Read the stick at the calibration mark that is aligned with the edge of the nylon bayonet head socket. Record stick reading.

(6) Push stick upward and engage the bayonet head. Rotate the head 90 degrees clockwise to its locked position. The locked position is indicated by alignment of the slot in the head with two small holes in the socket.

(7) Obtain corrected fuel tank quantity (in pounds) from appropriate attitude correction table (Ref. Table 301 and subsequent) using the following procedure:

(a) Locate attitude correction tables for appropriate stick position (Ref. Fig. 301).

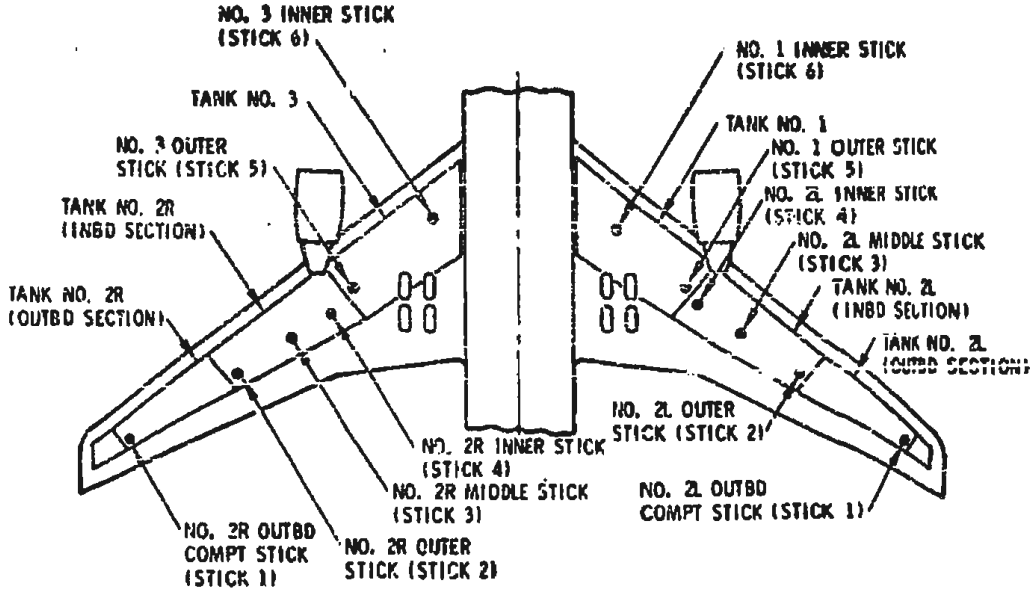
NOTE: The correction tables are identified by stick position.

(b) Locate stick reading (in pounds) on the left side of table.

(c) Fuel quantity (in pounds) is shown opposite stick reading under applicable attitude column.

B. Use of Fuel Level Sight Gage for Fueling

Fuel level sight gages may be used to replenish fuel in a tank having an inoperative fuel quantity indicating system as follows:


NO. 3 INNER STICK (STICK 6)
TANK NO. 3
NO. 3 OUTER STICK (STICK 5)
TANK NO. 2R (INBD SECTION)
TANK NO. 2R (OUTBD SECTION)
NO. 2R OUTBD COMPT STICK (STICK 1)
NO. 2R OUTER STICK (STICK 2)
NO. 2R MIDDLE STICK (STICK 3)
NO. 2R INNER STICK (STICK 4)
NO. 1 INNER STICK (STICK 6)
TANK NO. 1
NO. 1 OUTER STICK (STICK 5)
NO. 2L INNER STICK (STICK 4)
NO. 2L MIDDLE STICK (STICK 3)
TANK NO. 2L (INBD SECTION)
TANK NO. 2L (OUTBD SECTION)
NO. 2L OUTER STICK (STICK 2)
NO. 2L OUTBD COMPT STICK (STICK 1)

VIEW LOOKING UP

NOTE

1 USE STICK 6 TO READ TANK 1 AND 3 FUEL QUANTITIES LESS THAN 45,000 LBS. USE STICK 5 IF TANK CONTAINS MORE THAN 45,000 LBS OF FUEL. USE FUEL PANEL GAGES TO RECORD FUEL QUANTITIES THAT ARE NOT READABLE ON STICK 6.

2 USE STICK 1 TO READ FUEL QUANTITY IN OUTBOARD SECTION OF TANK 2U2R. USE FUEL PANEL GAGES TO READ FUEL QUANTITIES LOWER THAN 7,500 LBS THAT ARE NOT READABLE ON STICK 1. IF STICK 1 READS BETWEEN 7,500 AND 8,250 LBS, RECORD STICK READING AS AMOUNT OF FUEL IN OUTBOARD SECTION. IF STICK 1 READING IS HIGHER THAN 8,250 LBS RECORD 8,670 LBS AS AMOUNT OF FUEL IN OUTBOARD SECTION.

3 READ STICK 2, 3, OR 4, (AS NOTED BELOW) TO DETERMINE QUANTITY OF FUEL IN TANK 2U2R INBOARD SECTION.

USE STICK 4 TO READ FUEL QUANTITIES BETWEEN 1,750 AND 8,250 LBS. USE FUEL PANEL GAGES TO RECORD FUEL QUANTITIES BELOW 1,750 LBS THAT ARE NOT READABLE ON STICK 4.

USE STICK 3 TO READ FUEL QUANTITIES BETWEEN 8,250 AND 12,000 LBS.

USE STICK 2 TO READ FUEL QUANTITIES GREATER THAN 12,000 LBS.

4 FUEL WILL AUTOMATICALLY TRANSFER FROM THE OUTBOARD SECTION OF TANK 2U2R TO THE INBOARD SECTION UNTIL FUEL IN THE INBOARD SECTION RISES ABOVE APPROXIMATELY 1,200 LBS AT WHICH TIME TRANSFER OF FUEL CEASES. FUEL TRANSFER WILL RESUME AGAIN WHEN THE OUTBOARD SECTION IS FULL.

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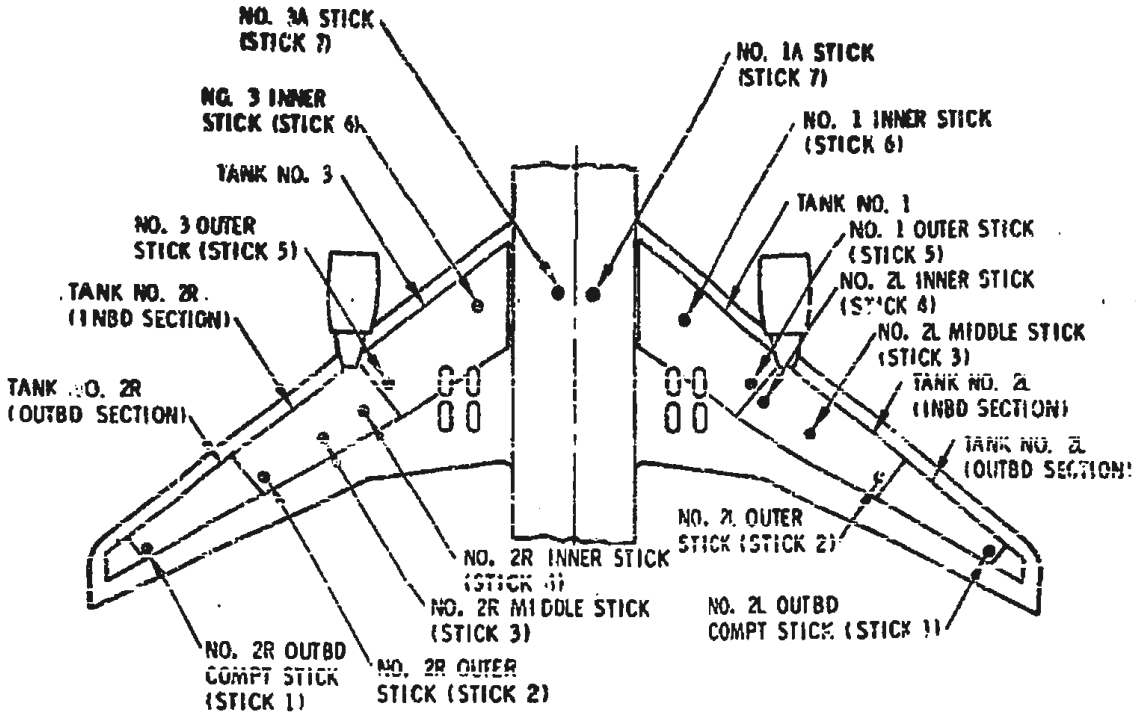
R
R

Fuel Quantity Measurement, Sight Gages
Figure 302


NO. 3A STICK (STICK 7)
NO. 1A STICK (STICK 7)
NO. 3 INNER STICK (STICK 6)
NO. 1 INNER STICK (STICK 6)
TANK NO. 3
TANK NO. 1
NO. 3 OUTER STICK (STICK 5)
NO. 1 OUTER STICK (STICK 5)
TANK NO. 2R (INBD SECTION)
NO. 2L INNER STICK (STICK 4)
NO. 2L MIDDLE STICK (STICK 3)
TANK NO. 2R (OUTBD SECTION)
TANK NO. 2L (INBD SECTION)
TANK NO. 2L (OUTBD SECTION)
NO. 2L OUTER STICK (STICK 2)
NO. 2R INNER STICK (STICK 4)
NO. 2R MIDDLE STICK (STICK 3)
NO. 2L OUTBD COMPT STICK (STICK 1)
NO. 2R OUTBD COMPT STICK (STICK 1)
NO. 2R OUTER STICK (STICK 2)

VIEW LOOKING UP

NOTE

1 USE STICK 6 TO READ TANK 1 AND 3 FUEL QUANTITIES LESS THAN 45,000 LBS. USE STICK 5 IF TANK CONTAINS MORE THAN 45,000 LBS OF FUEL. USE FUEL PANEL GAGES TO RECORD FUEL QUANTITIES THAT ARE NOT READABLE ON STICK 6.

2 USE STICK 1 TO READ FUEL QUANTITY IN OUTBOARD SECTION OF TANK 2L/2R. USE FUEL PANEL GAGES TO READ FUEL QUANTITIES LOWER THAN 7,500 LBS THAT ARE NOT READABLE ON STICK 1. IF STICK 1 READS BETWEEN 7,500 AND 8,250 LBS, RECORD STICK READING AS AMOUNT OF FUEL IN OUTBOARD SECTION. IF STICK 1 READING IS HIGHER THAN 8,250 LBS RECORD 8,670 LBS AS AMOUNT OF FUEL IN OUTBOARD SECTION.

3 READ STICK 2, 3, OR 4, (AS NOTED BELOW) TO DETERMINE QUANTITY OF FUEL IN TANK 2L/2R INBOARD SECTION.

USE STICK 4 TO READ FUEL QUANTITIES BETWEEN 1,750 AND 8,250 LBS. USE FUEL PANEL GAGES TO RECORD FUEL QUANTITIES BELOW 1,750 LBS THAT ARE NOT READABLE ON STICK 4.

USE STICK 3 TO READ FUEL QUANTITIES BETWEEN 8,250 AND 12,000 LBS.

USE STICK 2 TO READ FUEL QUANTITIES GREATER THAN 12,000 LBS.

4 FUEL WILL AUTOMATICALLY TRANSFER FROM THE OUTBOARD SECTION OF TANK 2L/2R TO THE INBOARD SECTION UNTIL FUEL IN THE INBOARD SECTION RISES ABOVE APPROXIMATELY 1,200 LBS AT WHICH TIME TRANSFER OF FUEL CEASES. FUEL TRANSFER WILL RESUME AGAIN WHEN THE OUTBOARD SECTION IS FULL.

5 READ STICK 7 TO DETERMINE QUANTITY OF FUEL IN 1A/3A. USE FUEL PANEL GAGES TO RECORD FUEL QUANTITIES BELOW 281 LBS THAT ARE NOT READABLE ON STICK 7.

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R R Fuel Quantity Measurement, Sight Gages
Figure 302

(1) Determine aircraft pitch and roll attitude (Ref. Step 3A(1).

(2) Locate attitude correction table for appropriate stick position and aircraft attitude (Ref. Fig. 301).

(3) Locate required stick reading (in pounds) at left side of table opposite desired fuel quantity in applicable roll attitude column. Note stick reading required.

(4) Position applicable stick as directed in Step 3A(1) through (4).

(5) Start refueling tank. Ensure that stick is magnetically drawn into tank as fuel level rises.

(6) Continue fueling until stick reaches required reading.

4. Fuel Quantity Measurement

A. Procedure

(1) Select appropriate stick (Ref. Fig. 301).

(2) Read stick as directed in Step 3A(1) through (6).

(3) Record corrected fuel quantity for each tank as directed in Step 3A(7).

R R (4) To obtain total fuel quantity, add corrected stick readings obtained for tanks 1, 2L, 2R, and 3, and on aircraft 025-026, 028-999, tanks 1A and 3A.

NOTE: Fuel quantity measurements obtained using sight gage sticks can be expected to be within plus or minus 4 percent of that displayed by the fuel quantity indicating system.

C (5) Deleted.

CR 5. DELETED

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	8313	8272	8213	8126	7982	7715	7096
7750.00	8386	8355	8311	8246	8139	7936	7458
8000.00	8459	8438	8409	8365	8293	8154	7820
8250.00	8533	8523	8508	8483	8445	8369	8179

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	8262	8207	8126	7998	7771	7288	6167
7750.00	8344	8303	8242	8146	7974	7603	6624
8000.00	8428	8399	8358	8292	8174	7916	7153
8250.00	8511	8496	8474	8438	8373	8225	7724

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	8198	8122	8006	7808	7416	6483	5125
7750.00	8292	8234	8146	7995	7694	6927	5586
8000.00	8387	8347	8286	8182	7970	7409	6132
8250.00	8483	8461	8427	8367	8245	7899	6742

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	8114	8007	7830	7500	6753	5446	4083
7750.00	8224	8141	8005	7750	7154	5907	4545
8000.00	8335	8277	8181	8000	7568	6453	5092
8250.00	8446	8413	8357	8250	7985	7060	5702

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	8002	7841	7555	6948	5765	4403	3041
7750.00	8132	8007	7784	7303	6221	4865	3503
8000.00	8264	8175	8014	7664	6748	5412	4051
8250.00	8397	8343	8245	8028	7322	6022	4662

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	7844	7590	7083	6056	4723	3359	1999
7750.00	8003	7802	7399	6489	5184	3822	2461
8000.00	8164	8017	7721	6978	5731	4369	3010
8250.00	8326	8234	8046	7504	6341	4980	3621

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 1

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
7500.00	7611	7174	6294	5040	3676	2315	1050
7750.00	7810	7461	6697	5499	4139	2777	1458
8000.00	8013	7753	7144	6034	4687	3326	1978
8250.00	8219	8048	7616	6622	5298	3938	2574

NOTE: If stick 1 reading is higher than 8250 lbs record 8670 lbs as amount of fuel in outboard section.

CAUTION: ASSURE OUTBOARD SECTION IS FULL BY OPERATING BOOST PUMPS AS REQUIRED TO FILL TANK (REF. 28-24-00).

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
8000.00	12204	11716	11050	10149	9103	8041	6995
8250.00	12350	11885	11249	10379	9347	8291	7249
8500.00	12487	12043	11435	10601	9590	8541	7501
8750.00	12624	12200	11622	10822	9834	8791	7753
9000.00	12761	12358	11808	11043	10077	9041	8005
9250.00	12898	12516	11995	11264	10320	9292	8257
9500.00	13034	12674	12181	11485	10563	9542	8509
9750.00	13171	12832	12368	11706	10806	9792	8760
10000.00	13308	12989	12554	11927	11049	10042	9012
10250.00	13444	13146	12738	12146	11292	10292	9264
10500.00	13574	13296	12914	12357	11532	10542	9514
10750.00	13701	13440	13079	12552	11762	10788	9765
11000.00	13827	13584	13245	12747	11993	11035	10016
11250.00	13954	13728	13411	12942	12223	11281	10266
11500.00	14081	13872	13577	13136	12453	11528	10517
11750.00	14207	14016	13743	13331	12683	11775	10768
12000.00	14334	14160	13909	13526	12913	12021	11019
12250.00	14460	14303	14073	13720	13142	12268	11269
12500.00	14582	14439	14226	13897	13356	12511	11522
12750.00	14704	14575	14379	14074	13570	12755	11775
13000.00	14825	14707	14528	14245	13777	12998	12030
13250.00	14945	14839	14676	14416	13984	13242	12286
13500.00	15064	14969	14821	14583	14185	13486	12546
13750.00	15183	15099	14966	14750	14385	13732	12810
14000.00	15302	15229	15111	14916	14583	13980	13082
14250.00	15421	15359	15253	15081	14781	14227	13354
14500.00	15542	15491	15401	15248	14980	14477	13637
14750.00	15665	15624	15548	15415	15178	14729	13930
15000.00	15788	15757	15696	15582	15377	14980	14223
15250.00	15915	15894	15845	15752	15577	15231	14535
15500.00	16044	16033	15998	15923	15777	15483	14858
15750.00	16173	16172	16150	16094	15978	15734	15181
16000.00	16307	16316	16306	16269	16180	15985	15520
16250.00	16446	16464	16466	16447	16385	16237	15864
16500.00	16586	16613	16628	16625	16590	16488	16209

R EFFECTIVITY: ALL

R
0058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
8000.00	11905	11314	10489	9443	8370	7310	6268
8250.00	12065	11501	10711	9686	8619	7565	6527
8500.00	12215	11676	10922	9928	8869	7818	6782
8750.00	12365	11852	11132	10170	9119	8071	7036
9000.00	12515	12027	11342	10413	9370	8324	7290
9250.00	12665	12202	11552	10655	9620	8578	7545
9500.00	12815	12377	11762	10897	9870	8831	7799
9750.00	12965	12552	11972	11139	10120	9084	8054
10000.00	13114	12728	12182	11381	10370	9337	8308
10250.00	13263	12901	12390	11622	10621	9590	8562
10500.00	13405	13067	12587	11859	10871	9841	8812
10750.00	13543	13224	12770	12078	11118	10092	9063
11000.00	13680	13382	12954	12298	11365	10342	9314
11250.00	13817	13539	13137	12517	11612	10593	9565
11500.00	13955	13696	13320	12737	11859	10844	9815
11750.00	14092	13853	13504	12956	12106	11094	10066
12000.00	14230	14011	13687	13176	12353	11345	10317
12250.00	14366	14167	13869	13394	12600	11596	10568
12500.00	14496	14313	14036	13593	12843	11849	10822
12750.00	14626	14459	14204	13792	13086	12102	11076
13000.00	14754	14602	14366	13985	13325	12358	11333
13250.00	14881	14743	14528	14177	13563	12615	11591
13500.00	15006	14883	14686	14364	13796	12876	11856
13750.00	15132	15022	14844	14550	14028	13140	12125
14000.00	15258	15161	15002	14735	14258	13413	12406
14250.00	15384	15300	15159	14920	14488	13686	12687
14500.00	15511	15440	15317	15105	14718	13970	12983
14750.00	15640	15582	15477	15290	14947	14263	13291
15000.00	15769	15724	15636	15476	15176	14557	13600
15250.00	15902	15868	15798	15664	15405	14861	13937
15500.00	16037	16015	15961	15852	15635	15167	14290
15750.00	16172	16162	16125	16040	15864	15473	14643
16000.00	16313	16313	16292	16231	16094	15777	15027
16250.00	16457	16469	16462	16424	16325	16080	15433
16500.00	16603	16625	16634	16618	16556	16383	15847

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	2	WING DOWN 3
8000.00	11536	10803	9797	8716	7646	6592	5555
8250.00	11712	11013	10038	8963	7899	6851	5817
8500.00	11878	11210	10273	9212	8151	7106	6073
8750.00	12044	11407	10509	9461	8404	7361	6328
9000.00	12209	11604	10745	9709	8656	7615	6584
9250.00	12375	11801	10980	9958	8909	7870	6839
9500.00	12541	11997	11216	10207	9161	8125	7095
9750.00	12707	12194	11452	10455	9414	8380	7350
10000.00	12872	12391	11687	10704	9666	8634	7606
10250.00	13036	12586	11920	10953	9918	8888	7860
10500.00	13193	12771	12143	11202	10169	9139	8111
10750.00	13343	12943	12348	11447	10420	9390	8362
11000.00	13492	13116	12553	11691	10671	9641	8613
11250.00	13641	13288	12758	11936	10922	9891	8864
11500.00	13790	13461	12963	12180	11172	10142	9114
11750.00	13939	13633	13168	12425	11423	10393	9365
12000.00	14088	13806	13373	12669	11674	10644	9616
12250.00	14236	13977	13577	12912	11925	10895	9867
12500.00	14376	14136	13763	13142	12178	11148	10121
12750.00	14515	14296	13950	13371	12431	11402	10375
13000.00	14652	14450	14131	13592	12688	11660	10632
13250.00	14788	14604	14311	13813	12944	11918	10890
13500.00	14922	14756	14487	14027	13205	12183	11155
13750.00	15056	14907	14662	14241	13468	12452	11424
14000.00	15190	15057	14836	14453	13737	12732	11705
14250.00	15324	15207	15011	14665	14006	13013	11986
14500.00	15459	15359	15185	14876	14278	13309	12283
14750.00	15596	15511	15361	15088	14554	13612	12593
15000.00	15733	15664	15537	15300	14829	13928	12903
15250.00	15874	15819	15714	15512	15103	14265	13245
15500.00	16016	15976	15892	15725	15377	14617	13607
15750.00	16158	16134	16071	15938	15651	14970	13969
16000.00	16305	16294	16252	16152	15924	15347	14372
16250.00	16457	16459	16437	16368	16196	15735	14808
16500.00	16609	16625	16622	16584	16469	16127	15255

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
8000.00	11069	10152	9076	8000	6937	5888	4852
8250.00	11267	10385	9322	8250	7193	6149	5116
8500.00	11452	10607	9567	8500	7446	6404	5371
8750.00	11637	10830	9812	8750	7699	6658	5627
9000.00	11822	11052	10058	9000	7952	6913	5883
9250.00	12007	11274	10303	9250	8205	7168	6138
9500.00	12192	11497	10548	9500	8458	7423	6394
9750.00	12377	11719	10794	9750	8711	7678	6650
10000.00	12562	11942	11039	10000	8964	7933	6905
10250.00	12745	12161	11284	10250	9216	8187	7160
10500.00	12918	12367	11527	10500	9467	8438	7411
10750.00	13081	12559	11759	10750	9718	8689	7661
11000.00	13243	12751	11991	11000	9969	8939	7912
11250.00	13406	12943	12223	11250	10219	9190	8165
11500.00	13569	13134	12455	11500	10470	9441	8414
11750.00	13732	13326	12688	11750	10721	9692	8665
12000.00	13894	13518	12920	12000	10972	9942	8915
12250.00	14056	13708	13150	12250	11223	10193	9166
12500.00	14207	13884	13363	12500	11476	10447	9420
12750.00	14359	14061	13575	12750	11730	10701	9674
13000.00	14506	14232	13781	13000	11987	10958	9931
13250.00	14653	14402	13986	13250	12245	11216	10190
13500.00	14798	14569	14186	13500	12510	11481	10454
13750.00	14943	14735	14385	13750	12778	11750	10723
14000.00	15088	14901	14582	14000	13057	12031	11004
14250.00	15232	15066	14779	14250	13337	12312	11285
14500.00	15378	15232	14977	14500	13629	12609	11582
14750.00	15525	15399	15175	14750	13933	12919	11892
15000.00	15671	15567	15373	15000	14238	13229	12203
15250.00	15821	15736	15573	15250	14563	13571	12545
15500.00	15973	15906	15773	15500	14898	13932	12907
15750.00	16125	16077	15973	15750	15232	14293	13269
16000.00	16281	16251	16174	16000	15577	14691	13671
16250.00	16441	16428	16378	16250	15920	15118	14109
16500.00	16602	16606	16582	16500	16262	15555	14557

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
8000.00	10472	9446	8367	7298	6239	5191	4154
8250.00	10693	9687	8615	7550	6495	5450	4416
8500.00	10901	9923	8861	7799	6747	5705	4671
8750.00	11109	10160	9108	8049	7000	5959	4927
9000.00	11316	10396	9354	8299	7252	6214	5182
9250.00	11524	10633	9600	8548	7505	6468	5438
9500.00	11732	10869	9847	8798	7757	6723	5693
9750.00	11940	11105	10093	9048	8010	6977	5949
10000.00	12147	11342	10340	9297	8262	7232	6204
10250.00	12352	11577	10586	9547	8514	7486	6459
10500.00	12545	11806	10832	9797	8765	7736	6710
10750.00	12725	12023	11076	10047	9016	7987	6961
11000.00	12905	12239	11320	10298	9266	8238	7212
11250.00	13085	12455	11563	10548	9517	8489	7462
11500.00	13265	12672	11807	10798	9768	8740	7713
11750.00	13445	12888	12051	11049	10019	8990	7964
12000.00	13625	13105	12295	11299	10269	9241	8215
12250.00	13803	13319	12538	11550	10520	9492	8466
12500.00	13970	13518	12776	11802	10774	9746	8720
12750.00	14136	13717	13014	12054	11028	10000	8973
13000.00	14299	13910	13250	12308	11285	10257	9231
13250.00	14460	14103	13485	12563	11543	10515	9489
13500.00	14619	14290	13718	12822	11808	10780	9754
13750.00	14778	14478	13950	13084	12077	11049	10023
14000.00	14936	14664	14180	13354	12357	11330	10304
14250.00	15094	14849	14410	13624	12637	11611	10585
14500.00	15253	15036	14640	13904	12932	11907	10881
14750.00	15413	15223	14871	14191	13239	12218	11192
15000.00	15573	15410	15102	14479	13546	12528	11502
15250.00	15735	15598	15333	14780	13880	12870	11844
15500.00	15900	15788	15564	15086	14250	13232	12206
15750.00	16064	15977	15796	15392	14581	13593	12568
16000.00	16231	16169	16028	15699	14961	13994	12971
16250.00	16403	16364	16262	16006	15363	14425	13408
16500.00	16575	16559	16495	16313	15772	14867	13857

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
8000.00	9801	8745	7671	6605	5549	4504	3502
8250.00	10033	8988	7918	6855	5802	4758	3747
8500.00	10256	9228	8164	7104	6053	5011	3999
8750.00	10479	9468	8410	7352	6304	5265	4250
9000.00	10702	9708	8655	7601	6555	5518	4501
9250.00	10926	9947	8901	7850	6807	5771	4753
9500.00	11149	10187	9147	8098	7058	6024	5004
9750.00	11372	10427	9393	8347	7309	6278	5255
10000.00	11595	10667	9639	8595	7560	6531	5507
10250.00	11817	10907	9885	8844	7812	6784	5758
10500.00	12031	11143	10131	9094	8062	7035	6009
10750.00	12233	11375	10377	9344	8313	7285	6260
11000.00	12434	11606	10624	9595	8564	7536	6510
11250.00	12636	11837	10870	9845	8815	7787	6761
11500.00	12838	12068	11117	10096	9065	8038	7012
11750.00	13040	12300	11363	10346	9316	8289	7263
12000.00	13242	12531	11609	10597	9567	8539	7514
12250.00	13442	12761	11856	10847	9818	8790	7765
12500.00	13628	12985	12101	11100	10072	9044	8018
12750.00	13815	13208	12347	11353	10325	9298	8272
13000.00	13997	13428	12592	11608	10583	9555	8530
13250.00	14178	13648	12837	11865	10841	9813	8788
13500.00	14356	13865	13085	12126	11106	10078	9053
13750.00	14533	14081	13334	12391	11375	10347	9322
14000.00	14709	14295	13588	12665	11655	10628	9603
14250.00	14885	14509	13842	12939	11936	10909	9884
14500.00	15062	14724	14103	13225	12232	11206	10180
14750.00	15240	14939	14370	13522	12540	11516	10491
15000.00	15418	15154	14637	13819	12849	11826	10801
15250.00	15597	15371	14913	14137	13185	12168	11143
15500.00	15778	15588	15192	14467	13539	12530	11505
15750.00	15959	15805	15471	14797	13893	12892	11867
16000.00	16144	16023	15752	15148	14279	13294	12270
16250.00	16331	16243	16033	15514	14691	13728	12707
16500.00	16519	16464	16314	15886	15112	14173	13156

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 2

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
8000.00	9117	8053	6983	5923	4878	3887	3002
8250.00	9352	8295	7228	6169	5123	4122	3220
8500.00	9582	8535	7472	6415	5371	4367	3452
8750.00	9811	8775	7716	6662	5619	4611	3683
9000.00	10041	9015	7961	6908	5867	4856	3914
9250.00	10270	9255	8205	7155	6115	5101	4145
9500.00	10500	9496	8449	7401	6363	5346	4377
9750.00	10729	9736	8693	7648	6611	5590	4608
10000.00	10958	9976	8938	7894	6860	5835	4839
10250.00	11186	10216	9182	8141	7108	6081	5073
10500.00	11409	10455	9429	8390	7359	6332	5317
10750.00	11626	10692	9676	8640	7610	6583	5566
11000.00	11843	10930	9923	8891	7860	6834	5816
11250.00	12060	11167	10170	9141	8111	7084	6065
11500.00	12277	11404	10418	9392	8362	7335	6314
11750.00	12494	11642	10665	9642	8613	7586	6564
12000.00	12711	11879	10912	9893	8863	7837	6813
12250.00	12927	12116	11159	10143	9114	8088	7063
12500.00	13136	12349	11407	10397	9368	8342	7317
12750.00	13345	12583	11655	10650	9622	8595	7570
13000.00	13551	12815	11905	10906	9879	8853	7828
13250.00	13757	13047	12155	11163	10137	9111	8086
13500.00	13959	13279	12409	11426	10402	9376	8351
13750.00	14161	13513	12665	11692	10671	9645	8620
14000.00	14362	13751	12928	11968	10952	9926	8901
14250.00	14563	13989	13191	12244	11233	10207	9182
14500.00	14765	14232	13463	12533	11529	10503	9478
14750.00	14968	14480	13744	12833	11839	10813	9789
15000.00	15171	14728	14024	13134	12148	11124	10099
15250.00	15375	14983	14320	13458	12487	11466	10441
15500.00	15580	15241	14625	13797	12843	11828	10803
15750.00	15785	15498	14930	14135	13199	12190	11165
16000.00	15993	15758	15252	14500	13589	12593	11568
16250.00	16203	16019	15586	14883	14004	13028	12005
16500.00	16414	16280	15924	15272	14426	13474	12452

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	4635	4393	4155	3924	3701	3491	3302
3500.00	4861	4623	4389	4164	3950	3751	3580
3750.00	5082	4848	4621	4402	4197	4011	3859
4000.00	5294	5064	4844	4635	4440	4270	4141
4250.00	5497	5274	5062	4862	4681	4528	4426
4500.00	5701	5484	5280	5089	4921	4786	4711
4750.00	5905	5695	5497	5317	5161	5044	4995
5000.00	6108	5905	5715	5544	5401	5302	5280
5250.00	6312	6115	5933	5771	5641	5561	5565
5500.00	6516	6325	6150	5998	5881	5819	5850
5750.00	6719	6535	6368	6226	6122	6077	6134
6000.00	6910	6736	6578	6447	6358	6333	6417
6250.00	7094	6931	6784	6666	6592	6589	6698
6500.00	7277	7127	6990	6884	6826	6845	6979
6750.00	7461	7322	7196	7102	7060	7101	7260
7000.00	7645	7518	7402	7321	7294	7357	7541
7250.00	7828	7713	7609	7539	7528	7612	7822
7500.00	8012	7909	7815	7757	7763	7868	8103
7750.00	8195	8104	8021	7976	7997	8124	8385
8000.00	8366	8292	8222	8192	8230	8379	8654
8250.00	8528	8471	8420	8406	8464	8632	8912
8500.00	8689	8650	8618	8621	8697	8884	9169
8750.00	8851	8829	8815	8836	8931	9137	9427
9000.00	9012	9008	9013	9050	9165	9390	9684
9250.00	9174	9187	9211	9265	9399	9643	9942
9500.00	9335	9366	9409	9479	9633	9895	10199
9750.00	9497	9545	9606	9694	9866	10148	10457
10000.00	9652	9718	9800	9911	10104	10397	10709
10250.00	9804	9888	9992	10129	10345	10644	10959
10500.00	9956	10059	10184	10346	10585	10892	11208
10750.00	10108	10229	10376	10564	10826	11139	11458
11000.00	10260	10399	10568	10782	11066	11386	11707
11250.00	10411	10569	10760	11000	11306	11633	11956
11500.00	10563	10740	10952	11218	11547	11880	12206
11750.00	10715	10910	11144	11436	11787	12127	12455

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	10864	11077	11334	11653	12025	12371	12703
12250.00	11011	11242	11522	11868	12260	12613	12949
12500.00	11158	11407	11709	12084	12492	12855	13194
12750.00	11305	11572	11897	12298	12722	13095	13440
13000.00	11452	11737	12083	12511	12949	13335	13685
13250.00	11600	11902	12269	12723	13176	13576	13930

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	4402	4158	3920	3687	3463	3254	3070
3500.00	4628	4389	4156	3931	3717	3522	3361
3750.00	4850	4616	4389	4172	3970	3791	3656
4000.00	5064	4836	4617	4409	4220	4062	3959
4250.00	5270	5049	4839	4643	4470	4334	4267
4500.00	5477	5262	5061	4876	4719	4606	4576
4750.00	5683	5476	5283	5110	4968	4878	4884
5000.00	5889	5689	5505	5343	5217	5150	5192
5250.00	6096	5902	5727	5577	5466	5422	5500
5500.00	6302	6116	5949	5810	5715	5694	5808
5750.00	6509	6329	6171	6044	5964	5966	6117
6000.00	6706	6535	6387	6273	6212	6238	6414
6250.00	6898	6737	6600	6500	6458	6511	6705
6500.00	7090	6939	6812	6727	6704	6784	6996
6750.00	7282	7140	7025	6953	6950	7058	7287
7000.00	7475	7342	7238	7180	7196	7331	7578
7250.00	7667	7544	7450	7407	7442	7604	7869
7500.00	7859	7746	7663	7634	7688	7877	8160
7750.00	8051	7948	7876	7861	7934	8150	8451
8000.00	8236	8146	8086	8086	8180	8417	8725
8250.00	8411	8339	8296	8313	8428	8675	8982
8500.00	8585	8533	8506	8540	8676	8932	9240
8750.00	8760	8727	8716	8767	8923	9190	9498
9000.00	8935	8920	8927	8994	9171	9447	9756
9250.00	9109	9114	9137	9221	9418	9705	10014
9500.00	9284	9307	9347	9447	9666	9962	10272
9750.00	9459	9501	9557	9674	9914	10220	10530
10000.00	9627	9689	9768	9908	10162	10473	10783
10250.00	9790	9875	9979	10146	10411	10723	11034
10500.00	9954	10061	10191	10384	10660	10974	11285
10750.00	10118	10246	10402	10622	10909	11224	11536
11000.00	10282	10432	10614	10860	11159	11475	11787
11250.00	10445	10617	10825	11098	11408	11725	12038
11500.00	10609	10803	11037	11335	11657	11976	12288
11750.00	10773	10988	11248	11573	11906	12226	12539

R EFFECTIVITY: ALL

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	10934	11169	11458	11811	12153	12476	12791
12250.00	11092	11349	11664	12045	12399	12726	13042
12500.00	11251	11529	11870	12276	12644	12975	13295
12750.00	11409	11707	12076	12505	12889	13225	13547
13000.00	11568	11886	12281	12731	13133	13476	13802
13250.00	11726	12065	12486	12956	13375	13726	14056

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	4177	3932	3694	3461	3238	3033	2862
3500.00	4404	4164	3932	3708	3497	3310	3173
3750.00	4627	4395	4168	3953	3756	3590	3491
4000.00	4842	4616	4399	4196	4016	3877	3819
4250.00	5051	4833	4626	4437	4277	4168	4154
4500.00	5260	5050	4853	4678	4537	4458	4489
4750.00	5469	5267	5080	4919	4798	4749	4824
5000.00	5679	5484	5308	5160	5058	5040	5159
5250.00	5888	5701	5535	5401	5319	5331	5494
5500.00	6097	5918	5762	5642	5579	5622	5828
5750.00	6306	6135	5989	5883	5840	5913	6163
6000.00	6508	6346	6212	6121	6101	6201	6471
6250.00	6705	6553	6432	6358	6362	6489	6764
6500.00	6903	6760	6652	6595	6623	6777	7058
6750.00	7100	6968	6872	6832	6885	7064	7351
7000.00	7297	7175	7092	7070	7146	7352	7644
7250.00	7495	7382	7312	7307	7407	7640	7937
7500.00	7692	7590	7532	7544	7669	7927	8230
7750.00	7890	7797	7752	7781	7930	8215	8523
8000.00	8083	8001	7971	8018	8191	8488	8797
8250.00	8271	8206	8191	8257	8447	8746	9055
8500.00	8460	8411	8411	8496	8703	9003	9313
8750.00	8648	8616	8630	8735	8959	9261	9571
9000.00	8836	8820	8850	8974	9215	9519	9829
9250.00	9025	9025	9070	9213	9471	9777	10087
9500.00	9213	9230	9290	9452	9726	10035	10345
9750.00	9401	9434	9510	9692	9982	10293	10603
10000.00	9583	9638	9737	9937	10235	10544	10856
10250.00	9761	9842	9968	10185	10486	10797	11107
10500.00	9939	10046	10198	10433	10736	11048	11358
10750.00	10117	10249	10429	10682	10987	11298	11609
11000.00	10295	10453	10660	10930	11238	11549	11860
11250.00	10473	10656	10891	11178	11489	11800	12111
11500.00	10650	10860	11122	11427	11739	12051	12362
11750.00	10828	11064	11353	11675	11990	12302	12613

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	11005	11262	11583	11923	12241	12553	12864
12250.00	11175	11460	11811	12170	12493	12806	13117
12500.00	11347	11657	12036	12415	12745	13059	13370
12750.00	11519	11852	12260	12659	12997	13313	13624
13000.00	11690	12048	12480	12900	13250	13569	13881
13250.00	11862	12245	12700	13140	13503	13826	14139

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	3961	3718	3480	3250	3032	2837	2701
3500.00	4188	3951	3720	3500	3297	3126	3042
3750.00	4413	4181	3959	3750	3564	3422	3397
4000.00	4630	4407	4195	4000	3836	3729	3758
4250.00	4843	4628	4428	4250	4111	4045	4111
4500.00	5055	4849	4661	4500	4386	4361	4464
4750.00	5267	5070	4894	4750	4661	4677	4817
5000.00	5479	5292	5128	5000	4936	4993	5170
5250.00	5691	5513	5361	5250	5212	5308	5523
5500.00	5903	5734	5594	5500	5487	5624	5876
5750.00	6116	5955	5827	5750	5762	5940	6229
6000.00	6321	6172	6058	6000	6039	6241	6543
6250.00	6524	6385	6287	6250	6317	6533	6837
6500.00	6726	6599	6515	6500	6595	6825	7130
6750.00	6928	6813	6744	6750	6873	7118	7423
7000.00	7130	7026	6973	7000	7150	7410	7716
7250.00	7332	7240	7202	7250	7428	7702	8009
7500.00	7535	7453	7431	7500	7706	7994	8302
7750.00	7737	7667	7659	7750	7984	8287	8596
8000.00	7936	7879	7888	8000	8253	8560	8870
8250.00	8134	8092	8118	8250	8510	8818	9128
8500.00	8331	8305	8348	8500	8768	9076	9386
8750.00	8529	8518	8579	8750	9025	9334	9644
9000.00	8727	8731	8809	9000	9283	9592	9902
9250.00	8924	8944	9040	9250	9540	9850	10160
9500.00	9122	9157	9270	9500	9797	10108	10418
9750.00	9320	9370	9501	9750	10055	10366	10676
10000.00	9515	9588	9738	10000	10308	10619	10929
10250.00	9710	9808	9981	10250	10559	10870	11180
10500.00	9905	10029	10223	10500	10810	11121	11431
10750.00	10099	10250	10465	10750	11061	11372	11682
11000.00	10294	10470	10707	11000	11311	11623	11933
11250.00	10488	10691	10949	11250	11562	11873	12184
11500.00	10683	10912	11191	11500	11813	12124	12435
11750.00	10877	11132	11433	11750	12064	12375	12686

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	11068	11353	11676	12000	12315	12627	12938
12250.00	11256	11570	11917	12250	12567	12879	13190
12500.00	11444	11787	12158	12500	12819	13132	13443
12750.00	11632	12001	12396	12750	13073	13387	13698
13000.00	11820	12215	12632	13000	13328	13643	13955
13250.00	12007	12428	12867	13250	13583	13901	14213

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	3758	3518	3284	3061	2855	2690	2650
3500.00	3986	3752	3526	3314	3127	2995	3035
3750.00	4211	3984	3767	3569	3403	3313	3424
4000.00	4431	4212	4008	3828	3690	3644	3802
4250.00	4646	4438	4249	4089	3986	3981	4159
4500.00	4862	4665	4489	4351	4281	4317	4515
4750.00	5077	4891	4730	4612	4576	4653	4872
5000.00	5293	5117	4970	4873	4871	4990	5229
5250.00	5509	5343	5210	5135	5167	5326	5586
5500.00	5724	5569	5451	5396	5462	5663	5943
5750.00	5940	5795	5691	5658	5757	5999	6299
6000.00	6150	6018	5931	5922	6047	6308	6616
6250.00	6358	6239	6171	6187	6333	6601	6909
6500.00	6566	6460	6411	6453	6619	6894	7202
6750.00	6773	6681	6650	6718	6906	7187	7495
7000.00	6981	6902	6890	6985	7192	7480	7788
7250.00	7189	7124	7130	7249	7478	7773	8082
7500.00	7397	7345	7369	7514	7765	8066	8375
7750.00	7604	7566	7609	7779	8051	8359	8668
8000.00	7809	7786	7849	8040	8323	8633	8942
8250.00	8015	8008	8090	8294	8581	8891	9200
8500.00	8220	8230	8332	8548	8839	9149	9458
8750.00	8425	8453	8573	8802	9097	9407	9716
9000.00	8630	8675	8815	9056	9354	9665	9975
9250.00	8835	8897	9057	9310	9612	9923	10233
9500.00	9040	9119	9298	9564	9870	10181	10491
9750.00	9245	9341	9540	9818	10128	10439	10749
10000.00	9453	9569	9784	10070	10381	10692	11002
10250.00	9662	9801	10029	10320	10632	10943	11253
10500.00	9871	10032	10274	10570	10883	11194	11504
10750.00	10080	10263	10519	10821	11134	11445	11755
11000.00	10289	10495	10765	11071	11385	11696	12006
11250.00	10498	10726	11010	11321	11635	11947	12257
11500.00	10707	10958	11255	11571	11886	12198	12508
11750.00	10915	11189	11500	11822	12137	12449	12759

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	11124	11421	11746	12071	12388	12700	13011
12250.00	11332	11652	11990	12320	12639	12953	13264
12500.00	11539	11883	12234	12569	12891	13206	13517
12750.00	11745	12112	12477	12819	13144	13460	13771
13000.00	11950	12340	12720	13069	13397	13716	14029
13250.00	12155	12568	12963	13320	13651	13973	14286

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	3572	3338	3114	2906	2733	2647	2753
3500.00	3799	3572	3356	3162	3012	2981	3135
3750.00	4025	3805	3601	3423	3300	3324	3517
4000.00	4247	4038	3848	3692	3604	3671	3887
4250.00	4467	4269	4097	3969	3918	4014	4242
4500.00	4686	4501	4346	4245	4231	4356	4597
4750.00	4905	4733	4595	4522	4544	4699	4952
5000.00	5125	4964	4845	4798	4858	5041	5307
5250.00	5344	5196	5094	5074	5171	5384	5662
5500.00	5563	5428	5343	5351	5485	5726	6017
5750.00	5783	5659	5592	5627	5798	6068	6372
6000.00	5999	5890	5844	5903	6096	6379	6688
6250.00	6213	6120	6097	6179	6386	6672	6981
6500.00	6427	6351	6349	6454	6675	6966	7274
6750.00	6641	6581	6602	6730	6965	7259	7563
7000.00	6855	6811	6855	7005	7254	7552	7861
7250.00	7069	7041	7108	7281	7544	7845	8154
7500.00	7283	7272	7360	7556	7833	8138	8447
7750.00	7497	7502	7613	7832	8123	8432	8741
8000.00	7709	7732	7864	8097	8396	8706	9015
8250.00	7923	7964	8111	8353	8654	8964	9273
8500.00	8136	8196	8358	8610	8911	9222	9531
8750.00	8349	8428	8606	8866	9169	9480	9789
9000.00	8562	8661	8853	9122	9427	9738	10047
9250.00	8775	8893	9100	9378	9685	9996	10305
9500.00	8988	9125	9348	9634	9943	10254	10564
9750.00	9202	9357	9595	9890	10201	10512	10822
10000.00	9419	9592	9842	10142	10454	10765	11075
10250.00	9638	9828	10088	10392	10705	11016	11326
10500.00	9857	10064	10335	10642	10956	11267	11577
10750.00	10076	10301	10581	10892	11207	11518	11828
11000.00	10295	10537	10828	11142	11457	11769	12080
11250.00	10514	10773	11074	11392	11708	12020	12331
11500.00	10733	11010	11321	11642	11959	12271	12582
11750.00	10952	11246	11567	11892	12210	12522	12833

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	11171	11481	11813	12140	12460	12774	13084
12250.00	11390	11716	12057	12388	12711	13026	13337
12500.00	11609	11951	12302	12636	12961	13279	13590
12750.00	11827	12185	12546	12884	13212	13532	13843
13000.00	12046	12419	12789	13133	13464	13787	14097
13250.00	12264	12653	13033	13382	13716	14042	14350

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
3250.00	3408	3187	2983	2810	2704	2744	2926
3500.00	3634	3420	3226	3069	3002	3086	3296
3750.00	3860	3654	3472	3337	3310	3429	3665
4000.00	4085	3891	3726	3617	3627	3772	4023
4250.00	4309	4129	3986	3908	3945	4110	4370
4500.00	4532	4367	4246	4198	4263	4449	4716
4750.00	4756	4606	4507	4489	4581	4788	5062
5000.00	4979	4844	4767	4779	4900	5126	5409
5250.00	5203	5082	5027	5069	5218	5465	5755
5500.00	5427	5320	5287	5360	5536	5803	6101
5750.00	5650	5559	5547	5650	5854	6142	6448
6000.00	5873	5799	5809	5934	6155	6452	6760
6250.00	6094	6040	6072	6214	6447	6745	7053
6500.00	6316	6281	6334	6494	6738	7038	7347
6750.00	6538	6522	6597	6774	7029	7331	7640
7000.00	6759	6763	6860	7054	7321	7625	7933
7250.00	6981	7004	7122	7334	7612	7918	8227
7500.00	7203	7246	7385	7613	7904	8211	8520
7750.00	7424	7487	7648	7893	8195	8504	8813
8000.00	7645	7727	7904	8162	8468	8778	9088
8250.00	7867	7965	8155	8419	8726	9036	9346
8500.00	8088	8203	8405	8677	8984	9294	9604
8750.00	8310	8441	8656	8934	9242	9553	9862
9000.00	8532	8679	8906	9191	9500	9811	10120
9250.00	8753	8917	9156	9449	9758	10069	10378
9500.00	8975	9155	9407	9706	10016	10327	10637
9750.00	9197	9394	9657	9963	10274	10585	10895
10000.00	9421	9632	9905	10215	10527	10838	11148
10250.00	9646	9871	10152	10465	10778	11089	11397
10500.00	9870	10110	10399	10714	11029	11340	11647
10750.00	10095	10348	10646	10963	11279	11591	11897
11000.00	10320	10587	10892	11213	11530	11842	12147
11250.00	10545	10826	11139	11462	11780	12094	12397
11500.00	10770	11064	11386	11711	12031	12345	12647
11750.00	10995	11303	11633	11960	12281	12596	12897

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
12000.00	11220	11541	11877	12208	12531	12847	13144
12250.00	11443	11778	12121	12454	12780	13097	13387
12500.00	11667	12015	12364	12700	13028	13347	13630
12750.00	11890	12251	12607	12946	13277	13594	13870
13000.00	12114	12487	12850	13192	13525	13840	14108
13250.00	12337	12722	13093	13439	13774	14086	14345

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1490	1548	1622	1717	1846	2026	2298
2000.00	1619	1694	1788	1912	2077	2309	2655
2250.00	1746	1838	1954	2105	2306	2588	3007
2500.00	1873	1982	2120	2297	2535	2867	3360
2750.00	1999	2126	2285	2490	2764	3146	3711
3000.00	2126	2269	2449	2681	2989	3418	4051
3250.00	2254	2414	2614	2872	3214	3689	4389
3500.00	2381	2558	2779	3062	3439	3959	4727
3750.00	2509	2702	2943	3253	3663	4230	5065
4000.00	2638	2847	3109	3444	3887	4499	5398
4250.00	2767	2993	3274	3634	4110	4766	5730
4500.00	2897	3138	3440	3825	4333	5033	6062
4750.00	3026	3284	3605	4015	4556	5300	6392
5000.00	3156	3430	3771	4206	4779	5565	6719
5250.00	3287	3576	3937	4396	5000	5830	7041
5500.00	3417	3723	4103	4587	5222	6094	7364
5750.00	3548	3869	4269	4777	5443	6359	7686
6000.00	3679	4016	4435	4967	5664	6622	7994
6250.00	3810	4163	4601	5156	5885	6885	8298
6500.00	3942	4310	4767	5346	6105	7148	8602
6750.00	4073	4457	4932	5536	6326	7410	8903
7000.00	4205	4604	5099	5725	6546	7672	9192
7250.00	4337	4751	5264	5915	6766	7933	9475
7500.00	4468	4899	5430	6104	6985	8194	9758
7750.00	4601	5046	5597	6293	7205	8455	10033
8000.00	4733	5194	5763	6482	7424	8715	10302
8250.00	4865	5342	5929	6672	7644	8975	10571

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE - 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1470	1528	1604	1706	1847	2056	2390
2000.00	1602	1680	1781	1915	2101	2373	2807
2250.00	1735	1832	1957	2124	2353	2688	3219
2500.00	1867	1984	2134	2332	2606	3003	3632
2750.00	1999	2136	2310	2541	2858	3318	4043
3000.00	2132	2287	2486	2748	3106	3625	4441
3250.00	2267	2441	2663	2955	3354	3930	4836
3500.00	2402	2595	2840	3162	3602	4235	5230
3750.00	2537	2748	3017	3370	3850	4541	5625
4000.00	2673	2903	3195	3577	4097	4843	6008
4250.00	2810	3058	3373	3784	4343	5144	6387
4500.00	2946	3212	3550	3991	4589	5446	6765
4750.00	3083	3367	3728	4198	4834	5747	7136
5000.00	3220	3523	3906	4405	5079	6046	7485
5250.00	3359	3679	4084	4611	5323	6345	7821
5500.00	3497	3835	4262	4817	5567	6643	8157
5750.00	3635	3991	4441	5024	5811	6942	8493
6000.00	3774	4148	4619	5230	6055	7238	8808
6250.00	3912	4304	4797	5436	6298	7533	9115
6500.00	4051	4460	4975	5642	6542	7829	9423
6750.00	4190	4617	5153	5847	6785	8123	9726
7000.00	4329	4773	5331	6053	7028	8410	10016
7250.00	4469	4930	5509	6256	7270	8692	10300
7500.00	4609	5087	5687	6464	7513	8974	10582
7750.00	4748	5244	5865	6669	7755	9249	10858
8000.00	4888	5401	6043	6875	7997	9518	11127
8250.00	5028	5558	6221	7080	8240	9787	11396

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1459	1521	1602	1714	1876	2128	2569
2000.00	1597	1681	1791	1942	2158	2493	3074
2250.00	1736	1842	1980	2169	2439	2854	3573
2500.00	1875	2002	2170	2397	2720	3216	4072
2750.00	2015	2163	2359	2624	3001	3577	4570
3000.00	2155	2326	2549	2851	3278	3929	5042
3250.00	2297	2490	2740	3077	3555	4280	5493
3500.00	2440	2654	2931	3304	3831	4631	5944
3750.00	2583	2818	3122	3531	4107	4982	6394
4000.00	2727	2983	3314	3757	4382	5330	6801
4250.00	2872	3148	3506	3984	4656	5677	7190
4500.00	3017	3313	3697	4210	4930	6025	7579
4750.00	3162	3479	3889	4436	5204	6371	7957
5000.00	3308	3646	4081	4662	5478	6712	8307
5250.00	3454	3812	4274	4888	5751	7045	8644
5500.00	3601	3979	4466	5114	6024	7378	8980
5750.00	3747	4146	4658	5340	6297	7710	9317
6000.00	3894	4313	4850	5565	6569	8024	9631
6250.00	4042	4480	5042	5791	6841	8331	9939
6500.00	4189	4647	5234	6016	7113	8638	10246
6750.00	4336	4814	5427	6241	7386	8942	10550
7000.00	4484	4982	5619	6467	7657	9232	10840
7250.00	4632	5149	5811	6692	7928	9516	11124
7500.00	4780	5316	6003	6917	8199	9798	11406
7750.00	4928	5484	6196	7143	8468	10073	11682
8000.00	5076	5652	6388	7368	8734	10343	11951
8250.00	5224	5820	6581	7593	9000	10612	12221

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1463	1530	1621	1750	1945	2269	2912
2000.00	1608	1701	1825	2000	2263	2697	3534
2250.00	1754	1872	2029	2250	2580	3122	4142
2500.00	1901	2043	2233	2500	2896	3547	4750
2750.00	2047	2214	2438	2750	3213	3972	5350
3000.00	2197	2389	2644	3000	3526	4389	5845
3250.00	2348	2564	2852	3250	3839	4804	6302
3500.00	2500	2740	3059	3500	4151	5219	6758
3750.00	2651	2916	3266	3750	4464	5634	7215
4000.00	2805	3093	3474	4000	4776	6027	7623
4250.00	2959	3270	3682	4250	5088	6413	8012
4500.00	3113	3448	3890	4500	5399	6798	8401
4750.00	3267	3626	4098	4750	5711	7173	8779
5000.00	3422	3804	4307	5000	6022	7524	9130
5250.00	3578	3983	4516	5250	6333	7860	9466
5500.00	3733	4162	4725	5500	6643	8197	9803
5750.00	3889	4340	4934	5750	6954	8533	10139
6000.00	4046	4520	5143	6000	7257	8847	10454
6250.00	4202	4699	5352	6250	7559	9155	10762
6500.00	4359	4879	5561	6500	7860	9462	11069
6750.00	4516	5058	5770	6750	8159	9766	11373
7000.00	4673	5238	5980	7000	8446	10056	11663
7250.00	4831	5418	6189	7250	8730	10340	11947
7500.00	4988	5598	6398	7500	9011	10622	12230
7750.00	5146	5778	6608	7750	9286	10897	12505
8000.00	5304	5959	6818	8000	9556	11167	12775
8250.00	5462	6139	7028	8250	9825	11436	13044

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1483	1561	1668	1825	2073	2524	3573
2000.00	1638	1743	1889	2102	2437	3046	4259
2250.00	1793	1927	2111	2379	2800	3567	4900
2500.00	1948	2111	2334	2656	3163	4089	5542
2750.00	2103	2295	2556	2933	3527	4607	6171
3000.00	2263	2482	2781	3211	3889	5084	6666
3250.00	2424	2671	3007	3491	4252	5534	7123
3500.00	2585	2860	3233	3770	4616	5984	7580
3750.00	2747	3049	3459	4049	4979	6434	8037
4000.00	2910	3240	3687	4329	5340	6840	8445
4250.00	3074	3431	3914	4610	5700	7229	8834
4500.00	3238	3622	4142	4890	6060	7619	9223
4750.00	3403	3814	4370	5171	6415	7996	9601
5000.00	3568	4006	4599	5452	6756	8347	9952
5250.00	3735	4199	4829	5733	7088	8684	10289
5500.00	3901	4393	5058	6015	7419	9020	10625
5750.00	4067	4586	5287	6296	7750	9356	10962
6000.00	4235	4780	5517	6577	8063	9671	11277
6250.00	4402	4974	5747	6859	8370	9979	11584
6500.00	4570	5168	5977	7140	8677	10286	11892
6750.00	4737	5362	6207	7420	8980	10590	12196
7000.00	4905	5557	6438	7697	9270	10880	12486
7250.00	5074	5752	6668	7970	9554	11164	12770
7500.00	5242	5947	6899	8243	9836	11446	13053
7750.00	5411	6142	7130	8512	10112	11722	13329
8000.00	5580	6338	7361	8776	10381	11991	13598
8250.00	5750	6533	7593	9041	10650	12260	13868

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1523	1617	1750	1951	2292	3011	4376
2000.00	1689	1816	1994	2263	2722	3625	5071
2250.00	1855	2014	2237	2575	3152	4217	5716
2500.00	2021	2212	2481	2887	3583	4809	6361
2750.00	2188	2411	2724	3199	4013	5394	6993
3000.00	2358	2613	2972	3515	4441	5886	7488
3250.00	2530	2818	3221	3833	4858	6343	7945
3500.00	2702	3022	3471	4151	5276	6799	8402
3750.00	2874	3226	3720	4469	5693	7256	8859
4000.00	3049	3433	3972	4789	6083	7664	9267
4250.00	3225	3640	4224	5111	6463	8053	9656
4500.00	3401	3848	4477	5432	6843	8442	10046
4750.00	3577	4056	4730	5754	7215	8820	10424
5000.00	3754	4266	4985	6072	7564	9171	10775
5250.00	3933	4477	5240	6385	7900	9507	11112
5500.00	4112	4687	5495	6698	8237	9844	11449
5750.00	4290	4898	5751	7011	8573	10180	11785
6000.00	4470	5109	6007	7312	8887	10495	12100
6250.00	4650	5321	6263	7610	9195	10803	12408
6500.00	4830	5533	6520	7908	9502	11110	12716
6750.00	5011	5745	6776	8203	9806	11414	13020
7000.00	5192	5958	7033	8489	10095	11704	13309
7250.00	5373	6171	7290	8770	10379	11988	13593
7500.00	5555	6384	7546	9051	10662	12271	13874
7750.00	5737	6597	7800	9325	10937	12546	14147
8000.00	5919	6812	8053	9594	11207	12816	14407
8250.00	6102	7026	8305	9862	11476	13085	14663

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 4

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
1750.00	1588	1705	1877	2151	2669	3734	5207
2000.00	1768	1923	2149	2512	3185	4379	5900
2250.00	1948	2140	2421	2873	3693	4994	6542
2500.00	2127	2357	2692	3234	4202	5609	7185
2750.00	2307	2574	2964	3596	4706	6215	7816
3000.00	2489	2794	3240	3963	5165	6710	8311
3250.00	2674	3017	3519	4332	5604	7166	8768
3500.00	2858	3240	3798	4701	6043	7623	9225
3750.00	3043	3463	4077	5069	6482	8080	9682
4000.00	3231	3689	4361	5427	6884	8488	10090
4250.00	3420	3917	4646	5781	7273	8877	10480
4500.00	3610	4145	4931	6134	7661	9266	10870
4750.00	3800	4373	5217	6483	8038	9644	11248
5000.00	3992	4604	5505	6818	8389	9995	11599
5250.00	4185	4836	5792	7144	8726	10332	11934
5500.00	4378	5068	6079	7471	9062	10669	12269
5750.00	4572	5300	6366	7798	9399	11005	12605
6000.00	4765	5533	6648	8108	9715	11320	12912
6250.00	4962	5768	6928	8414	10021	11628	13210
6500.00	5157	6002	7208	8719	10328	11935	13508
6750.00	5352	6236	7487	9021	10632	12240	13801
7000.00	5549	6471	7760	9310	10922	12529	14069
7250.00	5746	6707	8030	9594	11206	12813	14327
7500.00	5943	6943	8300	9877	11488	13095	14581
7750.00	6141	7179	8565	10152	11764	13366	14822
8000.00	6339	7415	8827	10421	12032	13626	15049
8250.00	6538	7651	9089	10690	12300	13887	15277

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	45232	43777	41632	38874	35853	32789	29732
34250.00	45384	43958	41856	39120	36108	33044	29987
34500.00	45536	44140	42080	39367	36363	33300	30243
34750.00	45688	44321	42303	39613	36618	33556	30499
35000.00	45840	44503	42527	39859	36874	33811	30755
35250.00	45992	44684	42751	40106	37129	34067	31011
35500.00	46144	44866	42975	40352	37384	34323	31267
35750.00	46296	45047	43198	40599	37639	34578	31523
36000.00	46448	45228	43422	40845	37894	34834	31779
36250.00	46600	45410	43646	41091	38149	35090	32035
36500.00	46752	45591	43869	41338	38404	35345	32291
36750.00	46904	45773	44093	41584	38659	35601	32546
37000.00	47048	45943	44303	41827	38915	35859	32805
37250.00	47180	46099	44495	42065	39172	36122	33068
37500.00	47312	46254	44687	42303	39429	36384	33330
37750.00	47445	46410	44880	42541	39686	36647	33593
38000.00	47577	46566	45072	42779	39943	36909	33856
38250.00	47709	46721	45264	43017	40200	37171	34118
38500.00	47841	46877	45456	43255	40457	37434	34381
38750.00	47974	47033	45648	43493	40714	37696	34644
39000.00	48106	47188	45840	43731	40971	37958	34906
39250.00	48238	47344	46032	43969	41228	38221	35169
39500.00	48370	47500	46224	44207	41485	38483	35431
39750.00	48503	47655	46416	44445	41742	38746	35694
40000.00	48635	47811	46608	44683	41999	39008	35957
40250.00	48767	47966	46800	44921	42256	39270	36219
40500.00	48899	48122	46992	45159	42513	39533	36482
40750.00	49032	48278	47184	45397	42770	39795	36745
41000.00	49158	48426	47366	45626	43027	40062	37012
41250.00	49272	48558	47526	45834	43284	40337	37291
41500.00	49386	48690	47685	46042	43541	40612	37569
41750.00	49500	48822	47844	46249	43798	40887	37848
42000.00	49614	48954	48004	46457	44055	41163	38126
42250.00	49728	49086	48163	46665	44312	41438	38405
42500.00	49842	49218	48323	46873	44569	41713	38683

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
42750.00	49955	49350	48482	47080	44826	41938	38962
43000.00	50069	49482	48641	47288	45083	42264	39240
43250.00	50183	49614	48801	47496	45340	42539	39519
43500.00	50297	49746	48960	47704	45597	42814	39797
43750.00	50411	49878	49119	47911	45854	43089	40076
44000.00	50525	50010	49279	48119	46111	43365	40354
44250.00	50639	50142	49438	48327	46367	43640	40633
44500.00	50753	50274	49598	48535	46624	43915	40911
44750.00	50867	50406	49757	48742	46881	44190	41190
45000.00	50980	50538	49916	48950	47138	44466	41468
45250.00	51084	50657	50057	49129	47385	44748	41763
45500.00	51186	50773	50194	49301	47630	45032	42060
45750.00	51287	50889	50331	49473	47874	45316	42358
46000.00	51389	51005	50468	49646	48119	45600	42656
46250.00	51490	51121	50605	49818	48363	45884	42954
46500.00	51592	51237	50743	49991	48608	46168	43252
46750.00	51693	51353	50880	50163	48852	46453	43550
47000.00	51795	51469	51017	50336	49097	46737	43847
47250.00	51892	51579	51145	50495	49319	47023	44156
47500.00	51987	51685	51269	50646	49528	47310	44471
47750.00	52081	51791	51393	50798	49737	47598	44786
48000.00	52176	51898	51516	50949	49946	47885	45101
48250.00	52271	52004	51640	51101	50155	48173	45416
48500.00	52365	52110	51764	51253	50364	48461	45731
48750.00	52460	52216	51888	51404	50574	48748	46047
49000.00	52555	52323	52011	51556	50783	49036	46362
49250.00	52647	52426	52131	51701	50980	49319	46682
49500.00	52735	52525	52243	51834	51153	49592	47014
49750.00	52823	52623	52355	51968	51325	49865	47347
50000.00	52912	52722	52468	52101	51497	50138	47679
50250.00	53000	52820	52580	52234	51670	50412	48011
50500.00	53088	52919	52692	52367	51842	50685	48344
50750.00	53176	53017	52804	52500	52015	50958	48676
51000.00	53264	53115	52916	52633	52187	51231	49008
51250.00	53352	53213	53027	52765	52357	51501	49342

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	2	WING DOWN 3
51500.00	53437	53307	53132	52887	52510	51737	49684
51750.00	53521	53400	53237	53008	52657	51948	50031
52000.00	53605	53492	53341	53129	52803	52159	50378
52250.00	53689	53585	53446	53249	52950	52370	50725
52500.00	53773	53678	53550	53370	53097	52581	51072
52750.00	53857	53771	53655	53490	53243	52792	51419
53000.00	53941	53864	53759	53611	53390	53004	51765
53250.00	54030	53962	53868	53737	53540	53208	52131
53500.00	54123	54064	53982	53867	53694	53406	52515
53750.00	54216	54166	54096	53997	53847	53605	52899
54000.00	54309	54269	54210	54127	54001	53803	53282

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	44484	42599	40104	37252	34214	31150	28094
34250.00	44652	42806	40337	37500	34469	31405	28350
34500.00	44821	43013	40570	37749	34724	31661	28605
34750.00	44990	43220	40803	37998	34979	31916	28861
35000.00	45159	43427	41036	38246	35234	32172	29117
35250.00	45327	43634	41269	38495	35489	32427	29373
35500.00	45496	43841	41502	38743	35744	32683	29629
35750.00	45665	44048	41736	38992	35999	32938	29884
36000.00	45834	44255	41969	39240	36254	33194	30140
36250.00	46002	44461	42202	39489	36509	33449	30396
36500.00	46171	44668	42435	39737	36764	33705	30652
36750.00	46340	44875	42668	39986	37019	33960	30907
37000.00	46499	45070	42896	40233	37276	34219	31166
37250.00	46645	45248	43117	40477	37534	34481	31429
37500.00	46790	45425	43338	40721	37793	34743	31691
37750.00	46936	45603	43559	40966	38051	35005	31954
38000.00	47082	45780	43780	41210	38310	35268	32216
38250.00	47227	45958	44001	41454	38568	35530	32479
38500.00	47373	46136	44223	41699	38827	35792	32741
38750.00	47519	46313	44444	41943	39086	36055	33004
39000.00	47664	46491	44665	42187	39344	36317	33266
39250.00	47810	46668	44886	42432	39603	36579	33529
39500.00	47956	46846	45107	42676	39861	36841	33791
39750.00	48101	47024	45328	42920	40120	37104	34053
40000.00	48247	47201	45549	43164	40378	37366	34316
40250.00	48393	47379	45770	43409	40637	37628	34578
40500.00	48538	47557	45991	43653	40895	37890	34841
40750.00	48684	47734	46212	43897	41154	38153	35103
41000.00	48823	47903	46424	44140	41414	38419	35371
41250.00	48947	48051	46613	44377	41676	38695	35649
41500.00	49070	48198	46803	44615	41938	38972	35928
41750.00	49194	48346	46992	44853	42200	39248	36206
42000.00	49318	48494	47182	45091	42462	39524	36484
42250.00	49441	48642	47371	45328	42724	39800	36763
42500.00	49565	48790	47561	45566	42987	40076	37041

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 3

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
42750.00	49689	48938	47750	45804	43249	40353	37319
43000.00	49813	49086	47940	46042	43511	40629	37598
43250.00	49936	49234	48129	46280	43773	40905	37876
43500.00	50060	49382	48319	46517	44035	41181	38155
43750.00	50184	49530	48508	46755	44297	41458	38433
44000.00	50308	49678	48698	46993	44560	41734	38711
44250.00	50431	49825	48887	47231	44822	42010	38990
44500.00	50555	49973	49077	47468	45084	42286	39268
44750.00	50679	50121	49266	47706	45346	42562	39546
45000.00	50803	50269	49456	47944	45608	42839	39825
45250.00	50914	50400	49619	48168	45871	43124	40119
45500.00	51023	50528	49776	48390	46135	43412	40417
45750.00	51132	50655	49934	48612	46398	43699	40715
46000.00	51241	50783	50092	48833	46662	43987	41013
46250.00	51350	50911	50250	49055	46925	44274	41310
46500.00	51459	51038	50407	49276	47189	44562	41608
46750.00	51568	51166	50565	49498	47452	44849	41906
47000.00	51677	51293	50723	49720	47715	45137	42204
47250.00	51780	51413	50868	49919	47978	45430	42514
47500.00	51881	51528	51008	50105	48241	45726	42830
47750.00	51981	51643	51147	50291	48503	46022	43146
48000.00	52081	51758	51286	50478	48765	46318	43463
48250.00	52182	51873	51425	50664	49028	46614	43779
48500.00	52282	51988	51564	50850	49290	46911	44095
48750.00	52382	52104	51703	51036	49552	47207	44412
49000.00	52483	52219	51843	51223	49815	47503	44728
49250.00	52581	52331	51976	51399	50071	47802	45052
49500.00	52673	52435	52099	51554	50315	48108	45390
49750.00	52766	52540	52221	51708	50559	48413	45729
50000.00	52859	52645	52343	51863	50802	48718	46067
50250.00	52952	52750	52466	52018	51046	49024	46406
50500.00	53044	52854	52588	52173	51290	49329	46745
50750.00	53137	52959	52710	52327	51534	49635	47083
51000.00	53230	53064	52833	52482	51777	49940	47422
51250.00	53322	53168	52954	52635	52016	50246	47763

R EFFECTIVITY: ALL

R

0058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
51500.00	53410	53267	53068	52772	52213	50555	48125
51750.00	53497	53364	53180	52905	52392	50866	48500
52000.00	53584	53462	53291	53037	52571	51176	48875
52250.00	53672	53559	53403	53170	52750	51486	49250
52500.00	53759	53657	53514	53303	52930	51796	49625
52750.00	53846	53754	53626	53435	53109	52106	50000
53000.00	53933	53852	53737	53568	53288	52416	50376
53250.00	54025	53954	53853	53705	53464	52735	50790
53500.00	54121	54060	53973	53845	53637	53063	51243
53750.00	54216	54166	54093	53985	53810	53390	51695
54000.00	54312	54273	54213	54125	53983	53718	52148

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	43401	41157	38529	35626	32578	29514	26459
34250.00	43593	41376	38766	35876	32832	29769	26714
34500.00	43784	41594	39003	36125	33087	30025	26970
34750.00	43976	41813	39240	36375	33342	30280	27225
35000.00	44167	42031	39477	36625	33597	30535	27481
35250.00	44359	42250	39713	36874	33851	30790	27737
35500.00	44550	42468	39950	37124	34106	31046	27992
35750.00	44742	42687	40187	37374	34361	31301	28248
36000.00	44933	42905	40424	37623	34616	31556	28503
36250.00	45125	43124	40661	37873	34870	31811	28759
36500.00	45316	43342	40897	38123	35125	32067	29015
36750.00	45508	43561	41134	38372	35380	32322	29270
37000.00	45688	43773	41368	38621	35637	32580	29529
37250.00	45853	43978	41598	38869	35896	32842	29791
37500.00	46018	44183	41827	39117	36156	33104	30054
37750.00	46183	44388	42057	39364	36415	33366	30316
38000.00	46348	44593	42286	39612	36674	33629	30578
38250.00	46513	44797	42516	39860	36934	33891	30841
38500.00	46678	45002	42745	40108	37193	34153	31103
38750.00	46843	45207	42975	40355	37453	34415	31365
39000.00	47008	45412	43204	40603	37712	34677	31628
39250.00	47173	45616	43434	40851	37972	34939	31890
39500.00	47339	45821	43664	41098	38231	35201	32153
39750.00	47504	46026	43893	41346	38491	35463	32415
40000.00	47669	46231	44123	41594	38750	35726	32677
40250.00	47834	46436	44352	41842	39010	35988	32940
40500.00	47999	46640	44582	42089	39269	36250	33202
40750.00	48164	46845	44811	42337	39529	36512	33464
41000.00	48321	47041	45038	42584	39790	36779	33732
41250.00	48459	47215	45257	42829	40055	37055	34010
41500.00	48597	47389	45476	43075	40320	37332	34288
41750.00	48736	47563	45695	43320	40586	37609	34566
42000.00	48874	47737	45914	43566	40851	37886	34845
42250.00	49012	47911	46134	43811	41116	38162	35123
42500.00	49151	48085	46353	44057	41381	38439	35401

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
42750.00	49289	48260	46572	44302	41647	38716	35679
43000.00	49427	48434	46791	44548	41912	38992	35957
43250.00	49566	48608	47010	44793	42177	39269	36236
43500.00	49704	48782	47229	45039	42442	39546	36514
43750.00	49842	48956	47449	45284	42707	39823	36792
44000.00	49981	49130	47668	45530	42973	40099	37070
44250.00	50119	49304	47887	45775	43238	40376	37349
44500.00	50257	49479	48106	46021	43503	40653	37627
44750.00	50396	49653	48325	46266	43768	40929	37905
45000.00	50534	49827	48544	46512	44034	41206	38183
45250.00	50657	49978	48748	46754	44302	41494	38478
45500.00	50776	50124	48949	46996	44572	41783	38775
45750.00	50895	50270	49150	47238	44841	42073	39073
46000.00	51015	50417	49351	47480	45110	42363	39371
46250.00	51134	50563	49552	47722	45380	42652	39668
46500.00	51253	50709	49752	47964	45649	42942	39966
46750.00	51373	50855	49953	48206	45918	43232	40264
47000.00	51492	51002	50154	48448	46188	43522	40562
47250.00	51604	51137	50335	48687	46459	43818	40872
47500.00	51713	51266	50504	48925	46732	44118	41189
47750.00	51821	51395	50673	49163	47005	44418	41506
48000.00	51930	51524	50843	49401	47278	44718	41823
48250.00	52038	51653	51012	49639	47551	45018	42141
48500.00	52146	51782	51182	49877	47824	45318	42458
48750.00	52255	51911	51351	50115	48097	45618	42775
49000.00	52363	52040	51520	50352	48370	45918	43092
49250.00	52469	52164	51681	50584	48644	46222	43417
49500.00	52567	52278	51823	50802	48920	46535	43758
49750.00	52666	52393	51964	51020	49196	46848	44099
50000.00	52765	52507	52106	51238	49473	47161	44439
50250.00	52864	52622	52247	51455	49749	47474	44780
50500.00	52963	52736	52389	51673	50026	47787	45121
50750.00	53062	52850	52530	51891	50302	48100	45462
51000.00	53160	52965	52672	52109	50578	48413	45803
51250.00	53258	53078	52812	52321	50855	48728	46146

R EFFECTIVITY: ALL

R

0058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
51500.00	53352	53184	52938	52495	51133	49056	46514
51750.00	53443	53288	53061	52655	51411	49395	46896
52000.00	53534	53392	53183	52814	51689	49735	47279
52250.00	53626	53496	53306	52974	51967	50074	47662
52500.00	53717	53600	53428	53134	52245	50413	48045
52750.00	53809	53705	53550	53293	52522	50752	48428
53000.00	53900	53809	53673	53453	52800	51091	48811
53250.00	53995	53916	53798	53611	53081	51464	49242
53500.00	54094	54027	53927	53767	53364	51868	49720
53750.00	54193	54139	54056	53923	53647	52272	50198
54000.00	54291	54250	54185	54079	53931	52677	50675

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	42047	39644	36930	34000	30945	27682	24826
34250.00	42251	39867	37177	34250	31199	28137	25082
34500.00	42455	40091	37416	34500	31453	28391	25337
34750.00	42659	40314	37655	34750	31708	28646	25592
35000.00	42863	40537	37894	35000	31962	28901	25847
35250.00	43067	40760	38133	35250	32216	29156	26103
35500.00	43271	40984	38371	35500	32470	29411	26358
35750.00	43475	41207	38610	35750	32724	29665	26613
36000.00	43679	41430	38849	36000	32978	29920	26869
36250.00	43883	41654	39088	36250	33233	30175	27124
36500.00	44086	41877	39327	36500	33487	30430	27379
36750.00	44290	42100	39565	36750	33741	30684	27634
37000.00	44488	42320	39802	37000	33998	30942	27893
37250.00	44678	42534	40037	37250	34258	31204	28155
37500.00	44868	42749	40271	37500	34518	31466	28417
37750.00	45057	42963	40505	37750	34778	31728	28679
38000.00	45247	43178	40740	38000	35038	31990	28942
38250.00	45437	43392	40974	38250	35298	32252	29204
38500.00	45627	43607	41208	38500	35558	32514	29466
38750.00	45816	43821	41443	38750	35818	32776	29728
39000.00	46006	44036	41677	39000	36078	33038	29991
39250.00	46196	44250	41911	39250	36338	33300	30253
39500.00	46385	44465	42146	39500	36598	33562	30515
39750.00	46575	44680	42380	39750	36858	33824	30777
40000.00	46765	44894	42614	40000	37118	34086	31040
40250.00	46954	45109	42849	40250	37378	34348	31302
40500.00	47144	45323	43083	40500	37638	34610	31564
40750.00	47334	45538	43317	40750	37898	34872	31826
41000.00	47515	45748	43550	41000	38160	35130	32093
41250.00	47676	45951	43778	41250	38427	35416	32371
41500.00	47838	46153	44007	41500	38694	35693	32650
41750.00	47999	46355	44235	41750	38961	35970	32928
42000.00	48160	46557	44464	42000	39229	36247	33206
42250.00	48322	46760	44692	42250	39496	36524	33484
42500.00	48483	46962	44920	42500	39763	36801	33762

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	2	WING DOWN 3
42750.00	48645	47164	45149	42750	40030	37078	34040
43000.00	48806	47366	45377	43000	40297	37355	34318
43250.00	48967	47569	45606	43250	40565	37633	34596
43500.00	49129	47771	45834	43500	40832	37910	34874
43750.00	49290	47973	46062	43750	41099	38187	35152
44000.00	49451	48175	46291	44000	41366	38464	35431
44250.00	49613	48377	46519	44250	41633	38741	35709
44500.00	49774	48580	46748	44500	41901	39018	35987
44750.00	49936	48782	46976	44750	42168	39295	36265
45000.00	50097	48984	47205	45000	42435	39572	36543
45250.00	50238	49171	47428	45250	42707	39861	36837
45500.00	50375	49354	47650	45500	42980	40152	37135
45750.00	50512	49537	47873	45750	43253	40443	37432
46000.00	50648	49720	48095	46000	43527	40734	37730
46250.00	50785	49903	48317	46250	43800	41025	38027
46500.00	50922	50086	48540	46500	44073	41316	38325
46750.00	51059	50269	48762	46750	44346	41607	38622
47000.00	51195	50452	48984	47000	44619	41898	38920
47250.00	51322	50619	49203	47250	44896	42196	39230
47500.00	51443	50775	49419	47500	45175	42499	39548
47750.00	51564	50932	49635	47750	45453	42801	39866
48000.00	51686	51088	49851	48000	45732	43103	40183
48250.00	51807	51245	50067	48250	46010	43406	40501
48500.00	51928	51402	50283	48500	46289	43708	40818
48750.00	52049	51558	50499	48750	46567	44010	41136
49000.00	52170	51715	50715	49000	46846	44313	41453
49250.00	52287	51864	50925	49250	47127	44620	41779
49500.00	52395	51995	51122	49500	47413	44937	42121
49750.00	52502	52127	51319	49750	47699	45254	42464
50000.00	52610	52259	51516	50000	47986	45571	42806
50250.00	52717	52391	51713	50250	48272	45888	43148
50500.00	52825	52523	51910	50500	48558	46205	43491
50750.00	52933	52654	52107	50750	48844	46522	43833
51000.00	53040	52786	52304	51000	49131	46839	44176
51250.00	53147	52916	52496	51250	49418	47158	44520

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
51500.00	53247	53034	52655	51500	49715	47492	44890
51750.00	53344	53148	52801	51750	50019	47840	45275
52000.00	53442	53262	52947	52000	50323	48187	45660
52250.00	53539	53376	53094	52250	50627	48535	46045
52500.00	53636	53490	53240	52500	50931	48882	46430
52750.00	53734	53604	53386	52750	51235	49229	46815
53000.00	53831	53718	53532	53000	51538	49577	47199
53250.00	53932	53834	53677	53250	51872	49965	47635
53500.00	54035	53953	53821	53500	52234	50392	48117
53750.00	54139	54072	53965	53750	52595	50819	48600
54000.00	54242	54192	54109	54000	52957	51245	49083

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	40597	38097	35338	32376	29317	26254	23199
34250.00	40806	38323	35578	32626	29570	26508	23453
34500.00	41016	38550	35818	32875	29824	26762	23708
34750.00	41225	38776	36058	33125	30077	27016	23962
35000.00	41435	39002	36298	33375	30330	27270	24217
35250.00	41644	39228	36538	33625	30583	27524	24472
35500.00	41854	39454	36777	33875	30836	27778	24726
35750.00	42063	39680	37017	34125	31090	28032	24981
36000.00	42273	39906	37257	34374	31343	28286	25235
36250.00	42482	40132	37497	34624	31596	28540	25490
36500.00	42692	40358	37737	34874	31849	28793	25744
36750.00	42901	40585	37977	35124	32102	29047	25999
37000.00	43107	40808	38216	35374	32359	29305	26256
37250.00	43307	41028	38453	35626	32619	29566	26519
37500.00	43507	41249	38691	35877	32880	29828	26781
37750.00	43708	41469	38928	36129	33140	30090	27043
38000.00	43908	41689	39166	36380	33400	30352	27305
38250.00	44108	41909	39403	36631	33661	30614	27567
38500.00	44309	42129	39640	36883	33921	30876	27829
38750.00	44509	42349	39878	37134	34181	31138	28091
39000.00	44709	42570	40115	37385	34442	31400	28353
39250.00	44909	42790	40352	37637	34702	31662	28615
39500.00	45110	43010	40590	37888	34963	31923	28878
39750.00	45310	43230	40827	38140	35223	32185	29140
40000.00	45510	43450	41065	38391	35483	32447	29402
40250.00	45711	43671	41302	38642	35744	32709	29664
40500.00	45911	43891	41539	38894	36004	32971	29926
40750.00	46111	44111	41777	39145	36265	33233	30188
41000.00	46308	44329	42013	39397	36527	33499	30455
41250.00	46495	44541	42247	39650	36796	33777	30733
41500.00	46682	44754	42481	39903	37064	34054	31011
41750.00	46869	44966	42716	40157	37333	34331	31289
42000.00	47056	45179	42950	40410	37601	34608	31567
42250.00	47243	45391	43184	40663	37870	34885	31845
42500.00	47431	45604	43418	40916	38138	35162	32123

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
42750.00	47618	45816	43652	41169	38407	35440	32401
43000.00	47805	46029	43887	41422	38675	35717	32679
43250.00	47992	46241	44121	41676	38944	35994	32957
43500.00	48179	46454	44355	41929	39212	36271	33235
43750.00	48366	46666	44589	42182	39481	36548	33513
44000.00	48553	46879	44823	42435	39749	36825	33791
44250.00	48741	47091	45058	42688	40018	37103	34069
44500.00	48928	47304	45292	42942	40286	37380	34347
44750.00	49115	47516	45526	43195	40555	37657	34625
45000.00	49302	47729	45760	43448	40823	37934	34903
45250.00	49474	47935	45992	43702	41098	38224	35197
45500.00	49642	48139	46223	43957	41373	38515	35494
45750.00	49810	48344	46455	44211	41649	38807	35791
46000.00	49979	48549	46686	44466	41925	39099	36089
46250.00	50147	48753	46917	44721	42200	39391	36386
46500.00	50315	48958	47149	44975	42476	39683	36684
46750.00	50484	49163	47380	45230	42751	39975	36981
47000.00	50652	49367	47611	45485	43027	40267	37278
47250.00	50806	49567	47841	45741	43306	40566	37589
47500.00	50952	49765	48071	45998	43588	40870	37907
47750.00	51099	49962	48300	46256	43870	41174	38225
48000.00	51245	50160	48529	46513	44152	41478	38542
48250.00	51391	50357	48759	46771	44434	41781	38860
48500.00	51538	50555	48988	47028	44716	42085	39178
48750.00	51684	50752	49217	47286	44998	42389	39496
49000.00	51830	50950	49447	47543	45279	42693	39813
49250.00	51969	51141	49675	47802	45565	43001	40139
49500.00	52093	51321	49903	48063	45856	43321	40482
49750.00	52217	51501	50130	48324	46148	43640	40825
50000.00	52341	51681	50357	48585	46440	43959	41168
50250.00	52465	51861	50584	48846	46732	44278	41511
50500.00	52588	52041	50811	49107	47023	44597	41854
50750.00	52712	52221	51038	49368	47315	44916	42196
51000.00	52836	52401	51265	49629	47607	45236	42539
51250.00	52958	52577	51492	49891	47900	45557	42885

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
51500.00	53069	52725	51718	50158	48206	45895	43254
51750.00	53176	52862	51943	50432	48520	46246	43639
52000.00	53284	52999	52168	50705	48834	46597	44024
52250.00	53391	53136	52393	50978	49148	46948	44409
52500.00	53499	53273	52619	51251	49462	47299	44794
52750.00	53606	53410	52844	51524	49776	47649	45179
53000.00	53714	53546	53069	51798	50089	48000	45564
53250.00	53824	53682	53297	52096	50438	48394	45998
53500.00	53936	53818	53528	52419	50820	48827	46480
53750.00	54049	53953	53758	52742	51202	49261	46962
54000.00	54162	54088	53989	53065	51584	49695	47444

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	39100	36534	33735	30755	27695	24633	21580
34250.00	39313	36761	33975	31004	27947	24886	21833
34500.00	39526	36989	34215	31253	28198	25138	22086
34750.00	39739	37216	34455	31502	28450	25391	22339
35000.00	39952	37444	34695	31751	28702	25643	22592
35250.00	40165	37672	34936	32000	28954	25896	22845
35500.00	40378	37899	35176	32249	29206	26148	23097
35750.00	40591	38127	35416	32498	29458	26400	23350
36000.00	40804	38355	35656	32747	29709	26653	23603
36250.00	41017	38582	35896	32997	29961	26905	23856
36500.00	41230	38810	36136	33246	30213	27158	24109
36750.00	41443	39038	36376	33495	30465	27410	24362
37000.00	41653	39264	36616	33745	30720	27667	24619
37250.00	41860	39487	36855	33997	30981	27928	24881
37500.00	42066	39711	37095	34250	31241	28190	25143
37750.00	42272	39935	37334	34502	31502	28452	25405
38000.00	42478	40158	37573	34754	31762	28713	25667
38250.00	42684	40382	37813	35007	32023	28975	25929
38500.00	42891	40606	38052	35259	32283	29237	26191
38750.00	43097	40829	38291	35511	32544	29499	26453
39000.00	43303	41053	38530	35764	32804	29760	26715
39250.00	43509	41277	38770	36016	33065	30022	26977
39500.00	43716	41501	39009	36268	33325	30284	27239
39750.00	43922	41724	39248	36520	33586	30545	27501
40000.00	44128	41948	39488	36773	33846	30807	27763
40250.00	44334	42172	39727	37025	34107	31069	28025
40500.00	44540	42395	39966	37277	34367	31331	28287
40750.00	44747	42619	40206	37530	34628	31592	28549
41000.00	44950	42841	40444	37783	34891	31859	28816
41250.00	45148	43060	40683	38038	35160	32136	29094
41500.00	45346	43279	40921	38293	35429	32413	29372
41750.00	45544	43498	41159	38548	35699	32690	29649
42000.00	45742	43717	41397	38804	35968	32968	29927
42250.00	45939	43936	41635	39059	36238	33245	30205
42500.00	46137	44155	41873	39314	36507	33522	30483

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
42750.00	46335	44374	42111	39569	36776	33799	30761
43000.00	46533	44593	42349	39824	37046	34076	31038
43250.00	46731	44812	42587	40080	37315	34354	31316
43500.00	46928	45031	42825	40335	37585	34631	31594
43750.00	47126	45250	43063	40590	37854	34908	31872
44000.00	47324	45469	43301	40845	38123	35185	32150
44250.00	47522	45688	43539	41100	38393	35463	32428
44500.00	47720	45907	43777	41355	38662	35740	32705
44750.00	47918	46126	44015	41611	38931	36017	32983
45000.00	48115	46345	44254	41866	39201	36294	33261
45250.00	48306	46560	44491	42123	39477	36584	33555
45500.00	48496	46774	44728	42381	39754	36877	33852
45750.00	48685	46988	44965	42639	40031	37169	34150
46000.00	48875	47203	45202	42896	40308	37462	34447
46250.00	49064	47417	45440	43154	40585	37754	34744
46500.00	49254	47631	45677	43412	40862	38047	35041
46750.00	49443	47846	45914	43670	41139	38339	35339
47000.00	49633	48060	46151	43927	41417	38632	35636
47250.00	49817	48272	46389	44188	41698	38932	35946
47500.00	49999	48484	46626	44450	41982	39236	36264
47750.00	50180	48695	46864	44712	42266	39541	36582
48000.00	50362	48907	47101	44974	42550	39845	36900
48250.00	50543	49119	47339	45235	42834	40150	37218
48500.00	50724	49330	47576	45497	43118	40454	37536
48750.00	50906	49542	47814	45759	43402	40759	37854
49000.00	51087	49753	48052	46021	43685	41063	38171
49250.00	51264	49963	48290	46285	43973	41372	38497
49500.00	51429	50171	48528	46552	44267	41692	38840
49750.00	51594	50378	48767	46820	44561	42011	39182
50000.00	51760	50585	49006	47088	44856	42331	39525
50250.00	51925	50793	49245	47355	45150	42650	39868
50500.00	52091	51000	49483	47623	45445	42970	40210
50750.00	52256	51207	49722	47891	45739	43289	40553
51000.00	52422	51414	49961	48158	46033	43609	40895
51250.00	52584	51621	50200	48427	46329	43930	41240

R EFFECTIVITY: ALL

R

0058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
51500.00	52726	51826	50443	48704	46638	44269	41607
51750.00	52857	52030	50691	48989	46958	44621	41990
52000.00	52988	52235	50938	49274	47277	44972	42372
52250.00	53119	52439	51186	49559	47597	45323	42754
52500.00	53250	52643	51434	49844	47916	45675	43136
52750.00	53381	52848	51682	50129	48235	46026	43519
53000.00	53512	53052	51930	50414	48555	46378	43901
53250.00	53642	53264	52200	50730	48912	46773	44332
53500.00	53773	53483	52493	51075	49304	47210	44811
53750.00	53904	53702	52786	51420	49697	47648	45289
54000.00	54034	53921	53078	51765	50090	48085	45767

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
34000.00	37576	34957	32131	29141	26081	23024	19978
34250.00	37791	35186	32371	29388	26331	23274	20228
34500.00	38006	35414	32611	29636	26581	23525	20478
34750.00	38221	35642	32851	29884	26831	23775	20728
35000.00	38436	35871	33090	30132	27081	24025	20978
35250.00	38651	36099	33330	30380	27331	24275	21228
35500.00	38866	36327	33570	30628	27581	24525	21478
35750.00	39081	36556	33810	30876	27831	24775	21728
36000.00	39296	36784	34050	31124	28080	25026	21978
36250.00	39511	37012	34289	31372	28330	25276	22228
36500.00	39726	37241	34529	31619	28580	25526	22478
36750.00	39941	37469	34769	31867	28830	25776	22728
37000.00	40154	37696	35009	32117	29084	26031	22983
37250.00	40364	37922	35249	32370	29345	26292	23245
37500.00	40574	38148	35490	32622	29605	26553	23507
37750.00	40784	38374	35730	32875	29865	26815	23768
38000.00	40993	38600	35971	33127	30125	27076	24030
38250.00	41203	38826	36211	33380	30385	27337	24291
38500.00	41413	39052	36451	33632	30645	27598	24553
38750.00	41623	39277	36692	33884	30906	27860	24815
39000.00	41833	39503	36932	34137	31166	28121	25076
39250.00	42043	39729	37172	34389	31426	28382	25338
39500.00	42253	39955	37413	34642	31686	28643	25600
39750.00	42463	40181	37653	34894	31946	28905	25861
40000.00	42673	40407	37894	35147	32206	29166	26123
40250.00	42883	40633	38134	35399	32467	29427	26385
40500.00	43093	40858	38374	35652	32727	29689	26646
40750.00	43303	41084	38615	35904	32987	29950	26908
41000.00	43511	41309	38855	36158	33250	30216	27175
41250.00	43716	41533	39096	36414	33520	30493	27452
41500.00	43921	41756	39336	36671	33790	30770	27730
41750.00	44125	41980	39577	36927	34060	31048	28008
42000.00	44330	42203	39817	37183	34330	31325	28285
42250.00	44535	42427	40057	37440	34600	31602	28563
42500.00	44739	42650	40298	37696	34870	31879	28841

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 5

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
51500.00	51857	50609	49041	47173	45027	42612	39942
51750.00	52045	50837	49302	47466	45350	42964	40320
52000.00	52233	51065	49564	47759	45672	43315	40698
52250.00	52421	51293	49825	48052	45994	43666	41077
52500.00	52609	51521	50087	48345	46317	44018	41455
52750.00	52798	51749	50348	48638	46639	44369	41834
53000.00	52986	51976	50610	48931	46962	44720	42212
53250.00	53183	52225	50899	49258	47325	45116	42640
53500.00	53389	52494	51215	49619	47726	45555	43117
53750.00	53595	52762	51530	49979	48128	45994	43593
54000.00	53801	53031	51846	50339	48529	46433	44069

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	8535	7817	7105	6400	5701	5010	4328
5750.00	8772	8056	7346	6644	5947	5259	4581
6000.00	9009	8295	7587	6887	6193	5508	4834
6250.00	9246	8534	7829	7131	6440	5757	5087
6500.00	9484	8774	8070	7374	6686	6007	5339
6750.00	9721	9013	8311	7618	6932	6256	5592
7000.00	9958	9252	8552	7862	7178	6505	5845
7250.00	10195	9491	8793	8105	7424	6754	6097
7500.00	10433	9730	9034	8349	7671	7003	6350
7750.00	10670	9969	9276	8592	7917	7253	6603
8000.00	10907	10208	9517	8836	8163	7502	6855
8250.00	11144	10447	9758	9079	8409	7751	7108
8500.00	11382	10686	9999	9323	8655	8000	7361
8750.00	11619	10926	10240	9566	8902	8249	7613
9000.00	11856	11165	10481	9810	9148	8499	7866
9250.00	12093	11404	10722	10053	9394	8748	8119
9500.00	12331	11643	10964	10297	9640	8997	8372
9750.00	12568	11882	11205	10541	9886	9246	8624
10000.00	12805	12121	11446	10784	10133	9495	8877
10250.00	13043	12360	11687	11028	10379	9745	9130
10500.00	13280	12599	11928	11271	10625	9994	9382
10750.00	13517	12839	12169	11515	10871	10243	9635
11000.00	13754	13078	12411	11758	11117	10492	9888
11250.00	13986	13312	12648	12000	11363	10743	10145
11500.00	14211	13541	12882	12239	11609	10996	10407
11750.00	14436	13771	13116	12479	11855	11250	10669
12000.00	14661	14000	13351	12718	12101	11503	10931
12250.00	14886	14229	13585	12958	12346	11756	11193
12500.00	15110	14458	13819	13197	12592	12009	11455
12750.00	15335	14687	14053	13437	12838	12262	11717
13000.00	15560	14917	14287	13676	13084	12515	11979
13250.00	15785	15146	14521	13916	13330	12768	12241
13500.00	16010	15375	14755	14155	13575	13021	12503
13750.00	16235	15604	14989	14395	13821	13274	12765
14000.00	16460	15834	15223	14634	14067	13528	13027

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	16685	16063	15457	14874	14313	13781	13289
14500.00	16910	16292	15691	15113	14559	14034	13551
14750.00	17135	16521	15925	15352	14804	14287	13813
15000.00	17360	16750	16159	15592	15050	14540	14075
15250.00	17585	16980	16393	15831	15296	14793	14337
15500.00	17810	17209	16627	16071	15542	15046	14600
15750.00	18035	17438	16861	16310	15788	15299	14862
16000.00	18260	17667	17095	16550	16033	15552	15124
16250.00	18485	17896	17329	16789	16279	15806	15386
16500.00	18704	18121	17560	17026	16523	16059	15650
16750.00	18922	18344	17788	17261	16766	16312	15915
17000.00	19140	18567	18017	17496	17010	16565	16181
17250.00	19358	18790	18246	17732	17253	16818	16446
17500.00	19576	19014	18474	17967	17496	17071	16711
17750.00	19794	19237	18703	18202	17739	17324	16976
18000.00	20012	19460	18932	18437	17983	17577	17242
18250.00	20229	19683	19161	18673	18226	17830	17507
18500.00	20447	19906	19389	18908	18469	18083	17772
18750.00	20665	20129	19618	19143	18712	18336	18037
19000.00	20883	20352	19847	19379	18955	18589	18303
19250.00	21101	20575	20075	19614	19199	18842	18568
19500.00	21319	20798	20304	19849	19442	19095	18833
19750.00	21536	21021	20533	20085	19685	19348	19099
20000.00	21754	21244	20762	20320	19928	19601	19364
20250.00	21972	21467	20990	20555	20172	19854	19629
20500.00	22190	21690	21219	20790	20415	20108	19894
20750.00	22408	21913	21448	21026	20658	20361	20160
21000.00	22626	22136	21676	21261	20901	20614	20425
21250.00	22843	22359	21905	21496	21145	20867	20690
21500.00	23057	22578	22130	21729	21387	21120	20957
21750.00	23269	22795	22354	21961	21628	21372	21225
22000.00	23480	23012	22578	22193	21869	21625	21493
22250.00	23692	23230	22802	22425	22111	21878	21761
22500.00	23904	23447	23026	22657	22352	22131	22029
22750.00	24115	23664	23250	22889	22593	22384	22297

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	24327	23881	23474	23121	22835	22636	22565
23250.00	24539	24096	23698	23353	23076	22889	22833
23500.00	24750	24316	23922	23584	23317	23142	23101
23750.00	24962	24533	24146	23816	23559	23395	23369
24000.00	25174	24750	24370	24048	23800	23648	23637
24250.00	25386	24967	24594	24280	24041	23900	23905
24500.00	25597	25184	24818	24512	24283	24153	24173
24750.00	25809	25401	25042	24744	24524	24406	24441
25000.00	26021	25619	25266	24976	24765	24659	24709
25250.00	26232	25836	25490	25208	25006	24912	24977
25500.00	26444	26053	25714	25440	25248	25165	25245
25750.00	26656	26270	25938	25672	25489	25417	25512
26000.00	26866	26487	26162	25904	25731	25671	25779
26250.00	27075	26703	26386	26136	25974	25928	26043
26500.00	27284	26919	26609	26369	26217	26184	26307
26750.00	27493	27135	26833	26601	26460	26441	26571
27000.00	27701	27352	27056	26834	26703	26697	26835
27250.00	27910	27568	27280	27066	26946	26953	27099
27500.00	28119	27784	27504	27299	27189	27210	27364
27750.00	28328	28000	27727	27531	27432	27466	27628
28000.00	28536	28216	27951	27764	27675	27722	27892
28250.00	28745	28432	28175	27996	27918	27979	28156
28500.00	28954	28648	28398	28228	28160	28235	28420
28750.00	29163	28865	28622	28461	28403	28491	28684
29000.00	29371	29081	28846	28693	28646	28748	28948
29250.00	29580	29297	29069	28926	28889	29004	29212
29500.00	29789	29513	29293	29158	29132	29261	29476
29750.00	29998	29729	29517	29391	29375	29517	29740
30000.00	30207	29953	29754	29639	29631	29776	30001
30250.00	30416	30177	29992	29888	29887	30036	30261
30500.00	30625	30402	30230	30137	30144	30296	30522
30750.00	30834	30626	30468	30386	30401	30555	30782
31000.00	31043	30851	30706	30635	30657	30815	31042
31250.00	31252	31075	30944	30884	30914	31075	31303
31500.00	31461	31299	31182	31133	31170	31334	31563

R EFFECTIVITY: ALL

R

G058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31671	31524	31421	31382	31427	31594	31823
32000.00	31880	31748	31659	31631	31683	31854	32084
32250.00	32089	31973	31897	31880	31940	32113	32344
32500.00	32298	32197	32135	32129	32196	32373	32605
32750.00	32507	32421	32373	32378	32453	32633	32865
33000.00	32716	32646	32611	32627	32709	32892	33125
33250.00	32925	32870	32849	32876	32966	33152	33386
33500.00	33134	33095	33087	33126	33222	33411	33646
33750.00	33343	33319	33325	33375	33479	33671	33906
34000.00	33553	33543	33563	33624	33735	33931	34167
34250.00	33762	33768	33801	33873	33992	34190	34427
34500.00	33971	33992	34039	34122	34248	34450	34688
34750.00	34180	34217	34277	34371	34505	34710	34948
35000.00	34389	34441	34516	34620	34761	34969	35208
35250.00	34598	34665	34754	34869	35018	35229	35469
35500.00	34807	34890	34992	35118	35275	35489	35729
35750.00	35016	35114	35230	35367	35531	35748	35989
36000.00	35225	35339	35468	35616	35788	36008	36250
36250.00	35435	35563	35706	35865	36044	36268	36510
36500.00	35644	35787	35944	36114	36301	36527	36770
36750.00	35853	36012	36182	36363	36557	36787	37031
37000.00	36062	36236	36420	36612	36814	37047	37291
37250.00	36271	36461	36658	36861	37070	37306	37552
37500.00	36480	36685	36896	37110	37327	37566	37812
37750.00	36689	36909	37134	37359	37583	37826	38072
38000.00	36898	37134	37372	37608	37840	38085	38333
38250.00	37108	37358	37611	37857	38096	38345	38593
38500.00	37317	37583	37849	38106	38353	38604	38853
38750.00	37526	37807	38087	38355	38609	38864	39114
39000.00	37735	38031	38325	38605	38866	39124	39374
39250.00	37944	38256	38563	38854	39122	39383	39635
39500.00	38153	38480	38801	39103	39379	39643	39895
39750.00	38362	38705	39039	39352	39636	39903	40155
40000.00	38571	38929	39277	39601	39892	40162	40416
40250.00	38780	39153	39515	39850	40149	40422	40676

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	38000	39378	39753	40099	40405	40682	40936
40750.00	39199	39602	39991	40348	40662	40941	41197
41000.00	39408	39827	40229	40597	40918	41201	41457
41250.00	39617	40051	40468	40846	41175	41461	41717
41500.00	39826	40275	40706	41095	41431	41720	41978
41750.00	40035	40500	40944	41344	41688	41980	42238
42000.00	40238	40721	41182	41595	41954	42254	42519
42250.00	40440	40941	41421	41354	42221	42531	42802
42500.00	40642	41162	41660	42110	42489	42807	43085
42750.00	40844	41382	41899	42366	42756	43083	43369
43000.00	41046	41603	42138	42621	43024	43360	43652
43250.00	41248	41824	42377	42877	43292	43636	43935
43500.00	41450	42044	42616	43132	43559	43913	44218
43750.00	41652	42265	42855	43388	43827	44189	44502
44000.00	41854	42485	43094	43643	44094	44466	44785
44250.00	42056	42706	43332	43899	44362	44742	45068
44500.00	42258	42926	43571	44155	44629	45019	45352
44750.00	42459	43147	43810	44410	44897	45295	45635
45000.00	42661	43367	44049	44666	45164	45571	45918
45250.00	42863	43588	44288	44921	45432	45848	46202
45500.00	43065	43808	44527	45177	45699	46124	46485
45750.00	43267	44029	44766	45432	45967	46401	46768
46000.00	43469	44249	45005	45688	46235	46677	47052
46250.00	43671	44470	45244	45944	46502	46954	47335
46500.00	43873	44690	45482	46199	46770	47230	47618
46750.00	44075	44911	45721	46455	47037	47506	47902
47000.00	44277	45131	45960	46710	47305	47783	48185
47250.00	44479	45352	46199	46966	47572	48059	48468

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	8184	7467	6756	6051	5352	4662	3983
5750.00	8423	7708	6999	6297	5602	4915	4239
6000.00	8662	7949	7243	6543	5851	5168	4496
6250.00	8901	8190	7486	6789	6100	5420	4752
6500.00	9140	8431	7729	7035	6349	5673	5009
6750.00	9379	8672	7973	7281	6598	5925	5266
7000.00	9618	8913	8216	7527	6847	6178	5522
7250.00	9857	9155	8460	7773	7096	6430	5779
7500.00	10096	9396	8703	8019	7345	6683	6035
7750.00	10335	9637	8946	8265	7594	6935	6292
8000.00	10574	9878	9190	8511	7843	7188	6548
8250.00	10813	10119	9433	8758	8093	7441	6805
8500.00	11052	10360	9676	9004	8342	7693	7061
8750.00	11291	10601	9920	9250	8591	7946	7318
9000.00	11530	10842	10163	9496	8840	8198	7575
9250.00	11769	11083	10407	9742	9089	8451	7831
9500.00	12008	11324	10650	9988	9338	8703	8088
9750.00	12247	11565	10893	10234	9587	8956	8344
10000.00	12487	11806	11137	10480	9836	9209	8601
10250.00	12726	12047	11380	10726	10085	9461	8857
10500.00	12965	12288	11624	10972	10335	9714	9114
10750.00	13204	12529	11867	11218	10584	9966	9371
11000.00	13443	12771	12110	11464	10833	10219	9627
11250.00	13676	13007	12351	11709	11082	10474	9889
11500.00	13904	13239	12588	11952	11332	10732	10157
11750.00	14131	13471	12825	12195	11582	10990	10426
12000.00	14358	13703	13063	12438	11832	11248	10694
12250.00	14586	13935	13300	12681	12082	11506	10962
12500.00	14813	14167	13537	12924	12332	11764	11230
12750.00	15040	14399	13774	13167	12582	12023	11499
13000.00	15268	14631	14012	13410	12832	12281	11767
13250.00	15495	14864	14249	13653	13082	12539	12035
13500.00	15723	15096	14486	13896	13332	12797	12303
13750.00	15950	15328	14723	14139	13582	13055	12572
14000.00	16177	15560	14961	14382	13832	13313	12840

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	16405	15792	15198	14625	14082	13571	13108
14500.00	16632	16024	15435	14868	14332	13829	13376
14750.00	16859	16256	15672	15111	14582	14087	13645
15000.00	17087	16488	15910	15354	14832	14346	13913
15250.00	17314	16720	16147	15597	15081	14604	14181
15500.00	17541	16952	16384	15841	15331	14862	14449
15750.00	17769	17184	16621	16084	15581	15120	14718
16000.00	17996	17416	16859	16327	15831	15378	14986
16250.00	18224	17648	17096	16570	16081	15636	15254
16500.00	18446	17876	17330	16810	16330	15895	15527
16750.00	18667	18102	17562	17050	16579	16155	15801
17000.00	18888	18328	17794	17290	16827	16415	16075
17250.00	19108	18554	18027	17529	17076	16675	16349
17500.00	19329	18780	18259	17769	17325	16935	16623
17750.00	19550	19006	18491	18009	17573	17194	16897
18000.00	19770	19232	18724	18249	17822	17454	17171
18250.00	19991	19458	18956	18488	18070	17714	17446
18500.00	20212	19684	19188	18728	18319	17974	17720
18750.00	20432	19911	19421	18968	18568	18234	17994
19000.00	20653	20137	19653	19207	18816	18493	18268
19250.00	20874	20363	19885	19447	19065	18753	18542
19500.00	21094	20589	20118	19687	19313	19013	18816
19750.00	21315	20815	20350	19927	19562	19273	19090
20000.00	21536	21041	20582	20166	19810	19533	19364
20250.00	21756	21267	20815	20406	20059	19793	19639
20500.00	21977	21493	21047	20646	20308	20052	19913
20750.00	22198	21719	21279	20885	20556	20312	20187
21000.00	22418	21946	21512	21125	20805	20572	20461
21250.00	22639	22172	21744	21365	21053	20832	20735
21500.00	22855	22394	21973	21603	21302	21093	21011
21750.00	23070	22615	22202	21840	21549	21354	21287
22000.00	23285	22836	22430	22077	21797	21615	21563
22250.00	23499	23057	22658	22314	22045	21877	21839
22500.00	23714	23278	22886	22552	22293	22138	22115
22750.00	23929	23498	23114	22789	22541	22400	22391

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	24143	23719	23343	23026	22789	22661	22667
23250.00	24358	23940	23571	23263	23037	22922	22943
23500.00	24572	24161	23799	23500	23285	23184	23219
23750.00	24787	24382	24027	23738	23533	23445	23495
24000.00	25002	24603	24256	23975	23781	23707	23772
24250.00	25216	24823	24484	24212	24029	23968	24048
24500.00	25431	25044	24712	24449	24276	24229	24324
24750.00	25646	25265	24940	24686	24524	24491	24600
25000.00	25860	25486	25169	24924	24772	24752	24876
25250.00	26075	25707	25397	25161	25020	25013	25152
25500.00	26289	25928	25625	25398	25268	25275	25428
25750.00	26504	26149	25853	25635	25516	25536	25704
26000.00	26718	26369	26082	25873	25765	25798	25976
26250.00	26929	26589	26310	26111	26015	26059	26241
26500.00	27141	26809	26539	26350	26266	26320	26505
26750.00	27353	27029	26768	26588	26517	26581	26770
27000.00	27564	27250	26996	26826	26767	26842	27034
27250.00	27776	27470	27225	27065	27018	27104	27299
27500.00	27987	27690	27454	27303	27268	27365	27563
27750.00	28199	27910	27682	27542	27519	27626	27827
28000.00	28411	28130	27911	27780	27770	27887	28092
28250.00	28622	28350	28140	28018	28020	28148	28356
28500.00	28834	28570	28368	28257	28271	28410	28621
28750.00	29046	28790	28597	28495	28521	28671	28885
29000.00	29257	29010	28826	28734	28772	28932	29150
29250.00	29469	29231	29054	28972	29022	29193	29414
29500.00	29680	29451	29283	29210	29273	29454	29679
29750.00	29892	29671	29512	29449	29524	29716	29943
30000.00	30107	29899	29752	29699	29780	29975	30203
30250.00	30322	30128	29993	29950	30037	30234	30464
30500.00	30537	30357	30235	30201	30294	30494	30724
30750.00	30752	30585	30476	30452	30551	30753	30984
31000.00	30967	30814	30717	30703	30808	31012	31244
31250.00	31182	31043	30958	30954	31064	31271	31504
31500.00	31397	31272	31199	31205	31321	31531	31764

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31612	31500	31440	31456	31578	31790	32024
32000.00	31827	31729	31682	31707	31835	32049	32285
32250.00	32043	31958	31923	31958	32092	32308	32545
32500.00	32258	32186	32164	32209	32349	32568	32805
32750.00	32473	32415	32405	32460	32605	32827	33065
33000.00	32688	32644	32646	32711	32862	33086	33325
33250.00	32903	32873	32887	32962	33119	33346	33585
33500.00	33118	33101	33129	33213	33376	33605	33846
33750.00	33333	33330	33370	33463	33633	33864	34106
34000.00	33548	33559	33611	33714	33890	34123	34366
34250.00	33763	33788	33852	33965	34146	34383	34626
34500.00	33978	34016	34093	34216	34403	34642	34886
34750.00	34193	34245	34335	34467	34660	34901	35146
35000.00	34408	34474	34576	34718	34917	35160	35406
35250.00	34623	34703	34817	34969	35174	35420	35667
35500.00	34838	34931	35058	35220	35431	35679	35927
35750.00	35053	35160	35299	35471	35687	35938	36187
36000.00	35269	35389	35540	35722	35944	36197	36447
36250.00	35484	35618	35782	35973	36201	36457	36707
36500.00	35699	35846	36023	36224	36458	36716	36967
36750.00	35914	36075	36264	36475	36715	36975	37228
37000.00	36129	36304	36505	36726	36972	37234	37488
37250.00	36344	36533	36746	36977	37228	37494	37748
37500.00	36559	36761	36987	37228	37485	37753	38008
37750.00	36774	36990	37229	37479	37742	38012	38268
38000.00	36989	37219	37470	37730	37999	38272	38528
38250.00	37204	37448	37711	37981	38256	38531	38788
38500.00	37419	37676	37952	38232	38513	38790	39049
38750.00	37634	37905	38193	38483	38769	39049	39309
39000.00	37849	38134	38435	38734	39026	39309	39569
39250.00	38064	38362	38676	38984	39283	39568	39829
39500.00	38279	38591	38917	39235	39540	39827	40089
39750.00	38495	38820	39158	39486	39797	40086	40349
40000.00	38710	39049	39399	39737	40054	40346	40609
40250.00	38925	39277	39640	39988	40311	40605	40870

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	39140	39506	39882	40239	40567	40864	41130
40750.00	39355	39735	40123	40490	40824	41123	41390
41000.00	39570	39964	40364	40741	41081	41383	41650
41250.00	39785	40192	40605	40992	41338	41642	41910
41500.00	40000	40421	40846	41243	41595	41901	42170
41750.00	40215	40650	41087	41494	41852	42160	42431
42000.00	40430	40882	41334	41750	42115	42432	42708
42250.00	40644	41115	41580	42006	42380	42705	42988
42500.00	40859	41347	41827	42262	42645	42977	43268
42750.00	41074	41580	42074	42519	42910	43250	43548
43000.00	41288	41813	42321	42775	43175	43523	43828
43250.00	41503	42045	42567	43031	43440	43796	44109
43500.00	41717	42278	42814	43288	43705	44069	44389
43750.00	41932	42511	43061	43544	43969	44342	44669
44000.00	42147	42743	43308	43800	44234	44615	44949
44250.00	42361	42976	43555	44057	44499	44888	45229
44500.00	42576	43209	43801	44313	44764	45161	45509
44750.00	42791	43441	44048	44569	45029	45434	45789
45000.00	43005	43674	44295	44826	45294	45707	46069
45250.00	43220	43907	44542	45082	45559	45980	46349
45500.00	43434	44139	44788	45338	45824	46253	46629
45750.00	43649	44372	45035	45595	46088	46525	46910
46000.00	43864	44605	45282	45851	46353	46798	47190
46250.00	44078	44837	45529	46107	46618	47071	47470
46500.00	44293	45070	45776	46364	46883	47344	47750
46750.00	44507	45303	46022	46620	47148	47617	48030
47000.00	44722	45535	46269	46876	47413	47890	48310
47250.00	44937	45768	46516	47133	47678	48163	48590

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE ± 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	7867	7153	6446	5747	5056	4376	3711
5750.00	8108	7396	6692	5995	5307	4631	3971
6000.00	8348	7639	6937	6243	5559	4887	4231
6250.00	8589	7882	7183	6492	5811	5142	4490
6500.00	8830	8125	7428	6740	6062	5397	4750
6750.00	9071	8368	7674	6988	6314	5653	5009
7000.00	9311	8611	7919	7237	6566	5908	5269
7250.00	9552	8854	8165	7485	6817	6163	5528
7500.00	9793	9096	8410	7734	7069	6419	5788
7750.00	10033	9339	8656	7982	7321	6674	6047
8000.00	10274	9582	8901	8230	7572	6929	6307
8250.00	10515	9825	9147	8479	7824	7185	6567
8500.00	10755	10068	9392	8727	8076	7440	6826
8750.00	10996	10311	9638	8975	8327	7695	7086
9000.00	11237	10554	9883	9224	8579	7951	7345
9250.00	11477	10797	10129	9472	8830	8206	7605
9500.00	11718	11039	10374	9720	9082	8461	7864
9750.00	11959	11282	10620	9969	9334	8717	8124
10000.00	12200	11525	10865	10217	9585	8972	8383
10250.00	12440	11768	11111	10465	9837	9227	8643
10500.00	12681	12011	11356	10714	10089	9483	8902
10750.00	12922	12254	11601	10962	10340	9738	9162
11000.00	13162	12497	11847	11211	10592	9993	9422
11250.00	13398	12736	12090	11458	10845	10252	9688
11500.00	13628	12970	12330	11705	11099	10516	9963
11750.00	13857	13205	12570	11951	11353	10779	10238
12000.00	14087	13440	12810	12198	11607	11042	10513
12250.00	14317	13674	13051	12444	11861	11305	10788
12500.00	14547	13909	13291	12691	12115	11568	11063
12750.00	14776	14144	13531	12938	12369	11831	11338
13000.00	15006	14378	13771	13184	12623	12094	11613
13250.00	15236	14613	14011	13431	12877	12358	11888
13500.00	15465	14848	14251	13677	13131	12621	12163
13750.00	15695	15082	14492	13924	13385	12884	12438
14000.00	15925	15317	14732	14171	13639	13147	12712

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	16155	15551	14972	14417	13893	13410	12987
14500.00	16384	15786	15212	14664	14147	13673	13262
14750.00	16614	16021	15452	14910	14401	13936	13537
15000.00	16844	16255	15692	15157	14655	14199	13812
15250.00	17073	16490	15933	15404	14909	14463	14087
15500.00	17303	16725	16173	15650	15163	14726	14362
15750.00	17533	16959	16413	15897	15417	14989	14637
16000.00	17763	17194	16653	16143	15671	15252	14912
16250.00	17992	17429	16893	16390	15925	15515	15187
16500.00	18218	17660	17131	16635	16180	15782	15469
16750.00	18441	17889	17367	16880	16434	16049	15754
17000.00	18665	18118	17603	17124	16689	16317	16039
17250.00	18888	18348	17839	17369	16944	16585	16323
17500.00	19112	18577	18076	17613	17199	16853	16608
17750.00	19335	18807	18312	17857	17453	17121	16893
18000.00	19559	19036	18548	18102	17708	17389	17178
18250.00	19782	19266	18784	18346	17963	17656	17463
18500.00	20006	19495	19021	18591	18218	17924	17748
18750.00	20230	19724	19257	18835	18472	18192	18033
19000.00	20453	19954	19493	19080	18727	18460	18317
19250.00	20677	20183	19729	19324	18982	18728	18602
19500.00	20900	20413	19966	19569	19236	18996	18887
19750.00	21124	20642	20202	19813	19491	19263	19172
20000.00	21347	20871	20438	20058	19746	19531	19457
20250.00	21571	21101	20674	20302	20001	19799	19742
20500.00	21794	21330	20911	20547	20255	20067	20027
20750.00	22018	21560	21147	20791	20510	20335	20312
21000.00	22242	21789	21383	21035	20765	20602	20596
21250.00	22465	22019	21619	21280	21020	20870	20881
21500.00	22685	22245	21855	21523	21275	21139	21162
21750.00	22902	22470	22087	21767	21530	21409	21441
22000.00	23120	22695	22320	22010	21786	21678	21720
22250.00	23338	22920	22553	22253	22041	21947	21999
22500.00	23555	23145	22786	22496	22297	22217	22279
22750.00	23773	23370	23019	22739	22552	22486	22558

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	23991	23595	23253	22983	22807	22755	22837
23250.00	24209	23819	23486	23226	23063	23025	23116
23500.00	24426	24044	23719	23469	23318	23294	23395
23750.00	24644	24269	23952	23712	23574	23563	23674
24000.00	24862	24494	24185	23955	23829	23833	23953
24250.00	25079	24719	24419	24198	24084	24102	24232
24500.00	25297	24944	24652	24442	24340	24372	24512
24750.00	25515	25169	24885	24685	24595	24641	24791
25000.00	25732	25394	25118	24928	24851	24910	25070
25250.00	25950	25619	25352	25171	25106	25180	25349
25500.00	26168	25844	25585	25414	25362	25449	25628
25750.00	26386	26069	25818	25657	25617	25718	25907
26000.00	26602	26294	26052	25901	25873	25985	26181
26250.00	26817	26518	26286	26146	26129	26247	26445
26500.00	27032	26742	26520	26392	26384	26509	26710
26750.00	27246	26967	26754	26637	26640	26772	26974
27000.00	27461	27191	26988	26882	26896	27034	27238
27250.00	27676	27415	27222	27127	27152	27296	27503
27500.00	27890	27640	27456	27372	27408	27558	27767
27750.00	28105	27864	27691	27618	27664	27820	28031
28000.00	28320	28088	27925	27863	27920	28082	28295
28250.00	28535	28312	28159	28108	28176	28344	28560
28500.00	28749	28537	28393	28353	28432	28607	28824
28750.00	28964	28761	28627	28598	28688	28869	29088
29000.00	29179	28985	28861	28843	28944	29131	29353
29250.00	29393	29210	29096	29089	29200	29393	29617
29500.00	29608	29434	29330	29334	29456	29655	29881
29750.00	29823	29658	29564	29579	29712	29917	30146
30000.00	30041	29889	29806	29830	29968	30176	30406
30250.00	30260	30121	30049	30081	30224	30435	30665
30500.00	30479	30352	30292	30332	30480	30693	30925
30750.00	30698	30584	30534	30583	30736	30952	31185
31000.00	30917	30815	30777	30834	30992	31211	31445
31250.00	31136	31047	31020	31085	31248	31469	31705
31500.00	31355	31278	31263	31336	31504	31728	31965

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31573	31510	31505	31587	31760	31986	32224
32000.00	31792	31741	31748	31838	32016	32245	32484
32250.00	32011	31973	31991	32090	32272	32504	32744
32500.00	32230	32205	32234	32341	32528	32762	33004
32750.00	32449	32436	32476	32592	32784	33021	33264
33000.00	32668	32668	32719	32843	33040	33279	33524
33250.00	32887	32899	32962	33094	33296	33538	33783
33500.00	33106	33131	33205	33345	33552	33796	34043
33750.00	33324	33362	33447	33596	33808	34055	34303
34000.00	33543	33594	33690	33847	34064	34314	34563
34250.00	33762	33825	33933	34098	34320	34572	34823
34500.00	33981	34057	34176	34349	34576	34831	35083
34750.00	34200	34288	34418	34600	34832	35089	35342
35000.00	34419	34520	34661	34851	35088	35348	35602
35250.00	34638	34751	34904	35103	35344	35607	35862
35500.00	34857	34983	35147	35354	35601	35865	36122
35750.00	35075	35214	35389	35605	35857	36124	36382
36000.00	35294	35446	35632	35856	36113	36382	36642
36250.00	35513	35677	35875	36107	36369	36641	36901
36500.00	35732	35909	36118	36358	36625	36900	37161
36750.00	35951	36140	36360	36609	36881	37158	37421
37000.00	36170	36372	36603	36860	37137	37417	37681
37250.00	36389	36604	36846	37111	37393	37675	37941
37500.00	36608	36835	37089	37362	37649	37934	38201
37750.00	36826	37067	37331	37613	37905	38193	38460
38000.00	37045	37298	37574	37864	38161	38451	38720
38250.00	37264	37530	37817	38115	38417	38710	38980
38500.00	37483	37761	38059	38367	38673	38968	39240
38750.00	37702	37993	38302	38618	38929	39227	39500
39000.00	37921	38224	38545	38869	39185	39486	39760
39250.00	38140	38454	38788	39120	39441	39744	40019
39500.00	38359	38687	39030	39371	39697	40003	40279
39750.00	38578	38919	39273	39622	39953	40261	40539
40000.00	38796	39150	39516	39873	40209	40520	40799
40250.00	39015	39382	39759	40124	40465	40779	41059

R EFFECTIVITY: ALL

R

0058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	39234	39613	40001	40375	40721	41037	41319
40750.00	39453	39845	40244	40626	40977	41296	41578
41000.00	39672	40076	40487	40877	41233	41554	41838
41250.00	39891	40308	40730	41128	41489	41813	42098
41500.00	40110	40540	40972	41380	41745	42072	42358
41750.00	40329	40771	41215	41631	42001	42330	42618
42000.00	40553	41008	41461	41884	42262	42597	42891
42250.00	40777	41245	41707	42138	42523	42865	43166
42500.00	41002	41482	41953	42392	42784	43133	43441
42750.00	41227	41720	42199	42646	43045	43402	43716
43000.00	41452	41957	42446	42899	43306	43670	43991
43250.00	41677	42195	42692	43153	43568	43938	44266
43500.00	41902	42432	42938	43407	43829	44206	44541
43750.00	42127	42669	43184	43661	44090	44474	44816
44000.00	42351	42907	43430	43915	44351	44743	45091
44250.00	42576	43144	43676	44169	44612	45011	45366
44500.00	42801	43382	43923	44422	44873	45279	45641
44750.00	43026	43619	44169	44676	45134	45547	45916
45000.00	43251	43857	44415	44930	45396	45815	46191
45250.00	43476	44094	44661	45184	45657	46084	46466
45500.00	43701	44331	44907	45438	45918	46352	46741
45750.00	43925	44569	45153	45692	46179	46620	47016
46000.00	44150	44806	45400	45945	46440	46888	47291
46250.00	44375	45044	45646	46199	46701	47157	47565
46500.00	44600	45281	45892	46453	46962	47425	47840
46750.00	44825	45518	46138	46707	47224	47693	48115
47000.00	45050	45756	46384	46961	47485	47961	48390
47250.00	45274	45993	46630	47214	47746	48229	48665

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	7589	6884	6187	5500	4825	4169	3537
5750.00	7831	7128	6434	5750	5079	4426	3798
6000.00	8073	7373	6681	6000	5332	4683	4059
6250.00	8315	7617	6928	6250	5585	4940	4320
6500.00	8557	7862	7175	6500	5839	5197	4581
6750.00	8799	8106	7422	6750	6092	5454	4842
7000.00	9041	8350	7669	7000	6345	5711	5103
7250.00	9283	8595	7916	7250	6599	5968	5364
7500.00	9525	8839	8163	7500	6852	6225	5625
7750.00	9767	9084	8410	7750	7105	6482	5886
8000.00	10009	9328	8658	8000	7359	6739	6146
8250.00	10251	9573	8905	8250	7612	6995	6407
8500.00	10494	9817	9152	8500	7865	7252	6668
8750.00	10736	10061	9399	8750	8119	7509	6929
9000.00	10978	10306	9646	9000	8372	7766	7190
9250.00	11220	10550	9893	9250	8625	8023	7451
9500.00	11462	10795	10140	9500	8879	8280	7712
9750.00	11704	11039	10387	9750	9132	8537	7973
10000.00	11946	11284	10634	10000	9385	8794	8234
10250.00	12188	11528	10881	10250	9639	9051	8495
10500.00	12430	11772	11128	10500	9892	9308	8756
10750.00	12672	12017	11375	10750	10145	9565	9017
11000.00	12914	12261	11622	11000	10399	9822	9278
11250.00	13151	12502	11868	11250	10654	10084	9549
11500.00	13383	12739	12111	11500	10913	10353	9832
11750.00	13615	12977	12354	11750	11171	10622	10115
12000.00	13847	13214	12597	12000	11429	10890	10397
12250.00	14079	13451	12840	12250	11687	11159	10680
12500.00	14311	13688	13083	12500	11946	11428	10963
12750.00	14543	13925	13326	12750	12204	11697	11246
13000.00	14775	14162	13569	13000	12462	11966	11529
13250.00	15007	14400	13812	13250	12721	12234	11811
13500.00	15239	14637	14055	13500	12979	12503	12094
13750.00	15471	14874	14298	13750	13237	12772	12377
14000.00	15703	15111	14542	14000	13496	13041	12660

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	15935	15348	14785	14250	13754	13309	12942
14500.00	16167	15585	15028	14500	14012	13578	13225
14750.00	16399	15822	15271	14750	14271	13847	13508
15000.00	16630	16060	15514	15000	14529	14116	13791
15250.00	16862	16297	15757	15250	14787	14385	14074
15500.00	17094	16534	16000	15500	15045	14653	14356
15750.00	17326	16771	16243	15750	15304	14922	14639
16000.00	17558	17008	16486	16000	15562	15191	14922
16250.00	17790	17245	16729	16250	15820	15460	15205
16500.00	18018	17479	16971	16500	16081	15734	15495
16750.00	18245	17712	17211	16750	16343	16011	15789
17000.00	18471	17945	17452	17000	16605	16288	16082
17250.00	18698	18178	17692	17250	16867	16565	16375
17500.00	18924	18411	17933	17500	17129	16842	16669
17750.00	19151	18644	18173	17750	17390	17119	16962
18000.00	19377	18877	18414	18000	17652	17396	17256
18250.00	19604	19110	18654	18250	17914	17673	17549
18500.00	19830	19343	18895	18500	18176	17950	17842
18750.00	20057	19576	19135	18750	18438	18227	18136
19000.00	20283	19809	19376	19000	18700	18504	18429
19250.00	20510	20042	19616	19250	18962	18781	18723
19500.00	20736	20275	19857	19500	19223	19058	19016
19750.00	20963	20507	20098	19750	19485	19335	19309
20000.00	21189	20740	20338	20000	19747	19612	19603
20250.00	21416	20973	20579	20250	20009	19889	19896
20500.00	21642	21206	20819	20500	20271	20167	20190
20750.00	21869	21439	21060	20750	20533	20444	20483
21000.00	22095	21672	21300	21000	20795	20721	20777
21250.00	22322	21905	21541	21250	21056	20998	21070
21500.00	22545	22135	21780	21500	21319	21272	21354
21750.00	22766	22365	22019	21750	21581	21545	21634
22000.00	22987	22594	22258	22000	21844	21818	21914
22250.00	23208	22824	22496	22250	22106	22090	22194
22500.00	23430	23053	22735	22500	22369	22363	22473
22750.00	23651	23282	22974	22750	22631	22636	22753

R EFFECTIVITY: ALL

R

0058

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	23872	23512	23213	23000	22894	22909	23033
23250.00	24093	23741	23452	23250	23156	23182	23313
23500.00	24314	23970	23691	23500	23419	23455	23593
23750.00	24536	24200	23929	23750	23681	23728	23873
24000.00	24757	24429	24168	24000	23944	24001	24153
24250.00	24978	24659	24407	24250	24206	24274	24433
24500.00	25199	24888	24646	24500	24469	24547	24713
24750.00	25420	25117	24885	24750	24731	24820	24993
25000.00	25642	25347	25123	25000	24994	25093	25272
25250.00	25863	25576	25362	25250	25256	25366	25552
25500.00	26084	25806	25601	25500	25519	25639	25832
25750.00	26305	26035	25840	25750	25781	25912	26112
26000.00	26525	26264	26079	26000	26042	26181	26387
26250.00	26743	26493	26319	26250	26300	26443	26651
26500.00	26961	26722	26559	26500	26557	26706	26915
26750.00	27180	26951	26799	26750	26815	26969	27179
27000.00	27398	27179	27039	27000	27072	27231	27443
27250.00	27616	27408	27279	27250	27330	27494	27707
27500.00	27834	27637	27519	27500	27587	27756	27971
27750.00	28052	27866	27759	27750	27845	28019	28235
28000.00	28270	28095	27999	28000	28102	28282	28499
28250.00	28488	28324	28239	28250	28360	28544	28763
28500.00	28706	28553	28479	28500	28617	28807	29027
28750.00	28924	28781	28719	28750	28875	29069	29292
29000.00	29142	29010	28959	29000	29133	29332	29556
29250.00	29360	29239	29199	29250	29390	29595	29820
29500.00	29578	29468	29439	29500	29648	29857	30084
29750.00	29797	29697	29679	29750	29905	30120	30348
30000.00	30018	29929	29921	30000	30160	30378	30607
30250.00	30239	30162	30164	30250	30415	30635	30867
30500.00	30461	30395	30406	30500	30670	30893	31126
30750.00	30682	30628	30649	30750	30924	31150	31385
31000.00	[illegible]	[illegible]	[illegible]	31000	[illegible]	[illegible]	[illegible]
31250.00	31125	31094	31134	31250	31434	31665	31904
31500.00	31346	31327	31377	31500	31689	31923	32163

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31568	31560	31620	31750	31943	32180	32422
32000.00	31789	31792	31862	32000	32198	32438	32681
32250.00	32010	32025	32105	32250	32453	32695	32941
32500.00	32232	32258	32348	32500	32708	32953	33200
32750.00	32453	32491	32590	32750	32962	33210	33459
33000.00	32675	32724	32833	33000	33217	33468	33718
33250.00	32896	32957	33076	33250	33472	33725	33978
33500.00	33117	33190	33318	33500	33727	33983	34237
33750.00	33339	33422	33561	33750	33981	34241	34496
34000.00	33560	33655	33804	34000	34236	34498	34755
34250.00	33782	33888	34046	34250	34491	34756	35015
34500.00	34003	34121	34289	34500	34746	35013	35274
34750.00	34225	34354	34532	34750	35001	35271	35533
35000.00	34446	34587	34774	35000	35255	35528	35792
35250.00	34667	34820	35017	35250	35510	35786	36052
35500.00	34889	35053	35259	35500	35765	36043	36311
35750.00	35110	35285	35502	35750	36020	36301	36570
36000.00	35332	35518	35745	36000	36274	36558	36829
36250.00	35553	35751	35987	36250	36529	36816	37089
36500.00	35774	35984	36230	36500	36784	37073	37348
36750.00	35996	36217	36473	36750	37039	37331	37607
37000.00	36217	36450	36715	37000	37293	37588	37866
37250.00	36439	36683	36958	37250	37548	37846	38126
37500.00	36660	36915	37201	37500	37803	38104	38385
37750.00	36881	37148	37443	37750	38058	38361	38644
38000.00	37103	37381	37686	38000	38312	38619	38903
38250.00	37324	37614	37929	38250	38567	38876	39163
38500.00	37546	37847	38171	38500	38822	39134	39422
38750.00	37767	38080	38414	38750	39077	39391	39681
39000.00	37988	38313	38657	39000	39331	39649	39940
39250.00	38210	38546	38899	39250	39586	39906	40200
39500.00	38431	38778	39142	39500	39841	40164	40459
39750.00	38653	39011	39385	39750	40096	40421	40718
40000.00	38874	39244	39627	40000	40351	40679	40977
40250.00	39095	39477	39870	40250	40605	40936	41237

R R 0058 EFFECTIVITY: ALL

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	39317	39710	40113	40500	40860	41194	41496
40750.00	39538	39943	40355	40750	41115	41452	41755
41000.00	39760	40176	40598	41000	41370	41709	42014
41250.00	39981	40408	40841	41250	41624	41967	42274
41500.00	40203	40641	41083	41500	41879	42224	42533
41750.00	40424	40874	41326	41750	42134	42482	42792
42000.00	40651	41110	41569	42000	42390	42743	43058
42250.00	40878	41347	41813	42250	42646	43000	43325
42500.00	41106	41584	42057	42500	42902	43267	43592
42750.00	41334	41821	42301	42750	43158	43528	43860
43000.00	41561	42057	42545	43000	43414	43790	44127
43250.00	41789	42294	42788	43250	43670	44052	44394
43500.00	42016	42531	43032	43500	43926	44314	44661
43750.00	42244	42768	43276	43750	44182	44576	44928
44000.00	42472	43004	43520	44000	44438	44837	45195
44250.00	42699	43241	43763	44250	44694	45099	45462
44500.00	42927	43478	44007	44500	44950	45361	45729
44750.00	43154	43715	44251	44750	45206	45623	45996
45000.00	43382	43951	44495	45000	45463	45885	46264
45250.00	43610	44188	44738	45250	45719	46147	46531
45500.00	43837	44425	44982	45500	45975	46408	46798
45750.00	44065	44662	45226	45750	46231	46670	47065
46000.00	44293	44898	45470	46000	46487	46932	47332
46250.00	44520	45135	45713	46250	46743	47194	47599
46500.00	44748	45372	45957	46500	46999	47456	47866
46750.00	44975	45609	46201	46750	47255	47718	48133
47000.00	45203	45845	46445	47000	47511	47979	48400
47250.00	45431	46082	46688	47250	47767	48241	48668

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	7355	6662	5982	5320	4680	4063	3473
5750.00	7598	6908	6230	5570	4934	4320	3734
6000.00	7841	7153	6478	5821	5188	4577	3995
6250.00	8084	7399	6727	6072	5442	4834	4256
6500.00	8327	7644	6975	6323	5695	5091	4517
6750.00	8570	7890	7223	6574	5949	5348	4778
7000.00	8813	8135	7471	6825	6203	5605	5039
7250.00	9056	8381	7719	7075	6456	5862	5300
7500.00	9300	8626	7967	7326	6710	6119	5561
7750.00	9543	8872	8215	7577	6964	6376	5822
8000.00	9786	9117	8463	7828	7217	6633	6084
8250.00	10029	9363	8711	8079	7471	6890	6345
8500.00	10272	9608	8959	8330	7725	7147	6606
8750.00	10515	9854	9208	8580	7978	7404	6867
9000.00	10758	10099	9456	8831	8232	7661	7128
9250.00	11001	10345	9704	9082	8486	7918	7389
9500.00	11245	10590	9952	9333	8739	8175	7650
9750.00	11488	10836	10200	9584	8993	8432	7911
10000.00	11731	11081	10448	9835	9247	8689	8172
10250.00	11974	11327	10696	10086	9500	8946	8433
10500.00	12217	11572	10944	10336	9754	9203	8694
10750.00	12460	11818	11192	10587	10008	9460	8955
11000.00	12703	12063	11440	10838	10261	9717	9216
11250.00	12942	12306	11688	11090	10519	9983	9492
11500.00	13176	12546	11934	11344	10782	10258	9784
11750.00	13410	12786	12180	11597	11045	10533	10075
12000.00	13645	13025	12426	11851	11308	10808	10367
12250.00	13879	13265	12672	12104	11571	11083	10659
12500.00	14113	13504	12918	12358	11834	11358	10951
12750.00	14347	13744	13164	12612	12097	11634	11242
13000.00	14581	13984	13410	12865	12360	11909	11534
13250.00	14815	14223	13656	13119	12622	12184	11826
13500.00	15049	14463	13902	13372	12885	12459	12118
13750.00	15284	14703	14148	13626	13148	12734	12410
14000.00	15518	14942	14394	13879	13411	13010	12701

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	15752	15182	14640	14133	13674	13285	12993
14500.00	15986	15422	14886	14386	13937	13560	13285
14750.00	16220	15661	15132	14640	14200	13835	13577
15000.00	16454	15901	15378	14894	14463	14110	13868
15250.00	16688	16141	15624	15147	14726	14386	14160
15500.00	16923	16380	15870	15401	14988	14661	14452
15750.00	17157	16620	16116	15654	15251	14936	14744
16000.00	17391	16860	16362	15908	15514	15211	15035
16250.00	17625	17099	16608	16161	15777	15486	15327
16500.00	17856	17337	16853	16417	16045	15768	15623
16750.00	18086	17573	17099	16673	16315	16052	15920
17000.00	18315	17810	17345	16930	16585	16336	16217
17250.00	18545	18047	17590	17186	16855	16621	16514
17500.00	18774	18284	17836	17443	17124	16905	16811
17750.00	19004	18520	18081	17699	17394	17189	17108
18000.00	19233	18757	18327	17956	17664	17473	17405
18250.00	19463	18994	18573	18212	17934	17758	17702
18500.00	19693	19231	18818	18468	18204	18042	17999
18750.00	19922	19467	19064	18725	18474	18326	18296
19000.00	20152	19704	19309	18981	18744	18610	18593
19250.00	20381	19941	19555	19238	19014	18895	18890
19500.00	20611	20178	19800	19494	19284	19179	19187
19750.00	20841	20414	20046	19750	19554	19463	19484
20000.00	21070	20651	20292	20007	19823	19748	19781
20250.00	21300	20888	20537	20263	20093	20032	20078
20500.00	21529	21125	20783	20520	20363	20316	20375
20750.00	21759	21361	21028	20776	20633	20600	20673
21000.00	21988	21598	21274	21033	20903	20885	20970
21250.00	22218	21835	21519	21289	21173	21169	21267
21500.00	22444	22070	21765	21545	21440	21446	21552
21750.00	22669	22305	22009	21801	21706	21720	21832
22000.00	22895	22539	22254	22057	21972	21995	22112
22250.00	23120	22773	22499	22313	22238	22269	22393
22500.00	23345	23008	22744	22569	22504	22543	22673
22750.00	23570	23242	22989	22825	22770	22818	22953

R EFFECTIVITY: ALL

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005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	23795	23477	23233	23081	23036	23092	23234
23250.00	24020	23711	23478	23337	23301	23366	23514
23500.00	24245	23946	23723	23592	23567	23641	23794
23750.00	24470	24180	23968	23848	23833	23915	24075
24000.00	24695	24415	24213	24104	24099	24189	24355
24250.00	24920	24649	24458	24360	24365	24464	24635
24500.00	25145	24883	24702	24616	24631	24738	24916
24750.00	25370	25118	24947	24872	24897	25012	25196
25000.00	25595	25352	25192	25128	25163	25287	25476
25250.00	25820	25587	25437	25384	25429	25561	25757
25500.00	26045	25821	25682	25640	25695	25835	26037
25750.00	26270	26056	25927	25896	25961	26110	26317
26000.00	26494	26290	26171	26150	26224	26380	26592
26250.00	26716	26523	26415	26402	26483	26643	26856
26500.00	26937	26756	26658	26654	26741	26906	27120
26750.00	27159	26989	26902	26907	27000	27169	27384
27000.00	27380	27223	27146	27159	27258	27431	27648
27250.00	27600	27456	27390	27411	27517	27694	27911
27500.00	27820	27689	27633	27663	27775	27957	28175
27750.00	28045	27922	27877	27915	28034	28220	28439
28000.00	28267	28156	28121	28167	28292	28483	28703
28250.00	28488	28389	28364	28419	28551	28745	28967
28500.00	28710	28622	28608	28671	28809	29008	29231
28750.00	28931	28855	28852	28923	29068	29271	29495
29000.00	29153	29089	29095	29175	29326	29534	29759
29250.00	29374	29322	29339	29427	29585	29797	30023
29500.00	29596	29555	29583	29679	29843	30059	30286
29750.00	29818	29788	29827	29931	30102	30322	30550
30000.00	30040	30021	30068	30179	30355	30579	30809
30250.00	30263	30254	30310	30427	30608	30834	31067
30500.00	30485	30486	30551	30676	30861	31090	31325
30750.00	30708	30719	30792	30924	31114	31346	31583
31000.00	30930	30952	31034	31172	31367	31602	31841
31250.00	31153	31185	31275	31420	31620	31858	32099
31500.00	31375	31417	31517	31669	31872	32114	32357

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31598	31650	31758	31917	32125	32370	32615
32000.00	31820	31883	31999	32165	32378	32626	32873
32250.00	32043	32115	32241	32413	32631	32881	33131
32500.00	32265	32348	32482	32662	32884	33137	33389
32750.00	32488	32581	32724	32910	33137	33393	33647
33000.00	32710	32813	32965	33158	33390	33649	33905
33250.00	32933	33046	33207	33406	33643	33905	34163
33500.00	33155	33279	33448	33654	33896	34161	34421
33750.00	33378	33511	33689	33903	34148	34417	34679
34000.00	33600	33744	33931	34151	34401	34673	34937
34250.00	33823	33977	34172	34399	34654	34929	35195
34500.00	34045	34209	34414	34647	34907	35184	35453
34750.00	34268	34442	34655	34896	35160	35440	35711
35000.00	34490	34675	34897	35144	35413	35696	35969
35250.00	34713	34908	35138	35392	35666	35952	36227
35500.00	34935	35140	35379	35640	35919	36208	36485
35750.00	35158	35373	35621	35888	36172	36464	36743
36000.00	35380	35606	35862	36137	36424	36720	37001
36250.00	35603	35838	36104	36385	36677	36976	37259
36500.00	35826	36071	36345	36633	36930	37232	37517
36750.00	36048	36304	36587	36881	37183	37487	37775
37000.00	36271	36536	36828	37130	37436	37743	38033
37250.00	36493	36769	37069	37378	37689	37999	38291
37500.00	36716	37002	37311	37626	37942	38255	38549
37750.00	36938	37234	37552	37874	38195	38511	38807
38000.00	37161	37467	37794	38123	38448	38767	39065
38250.00	37383	37700	38035	38371	38701	39023	39324
38500.00	37606	37932	38277	38619	38953	39279	39582
38750.00	37828	38165	38518	38867	39206	39535	39840
39000.00	38051	38398	38759	39115	39459	39790	40096
39250.00	38273	38631	39001	39364	39712	40046	40356
39500.00	38496	38863	39242	39612	39965	40302	40614
39750.00	38718	39096	39484	39860	40218	40558	40872
40000.00	38941	39329	39725	40108	40471	40814	41130
40250.00	39163	39561	39966	40357	40724	41070	41388

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	39386	39794	40208	40605	40977	41326	41646
40750.00	39608	40027	40449	40853	41229	41582	41904
41000.00	39831	40259	40691	41101	41482	41837	42162
41250.00	40053	40492	40932	41349	41735	42093	42420
41500.00	40276	40725	41174	41598	41988	42349	42678
41750.00	40498	40957	41415	41846	42241	42605	42936
42000.00	40725	41192	41655	42091	42491	42859	43191
42250.00	40952	41426	41895	42336	42741	43112	43447
42500.00	41180	41661	42136	42581	42990	43365	43702
42750.00	41407	41896	42376	42827	43240	43619	43957
43000.00	41634	42130	42616	43072	43490	43872	44212
43250.00	41862	42365	42856	43317	43739	44125	44468
43500.00	42089	42599	43096	43562	43989	44378	44723
43750.00	42316	42834	43336	43807	44238	44632	44978
44000.00	42544	43069	43576	44052	44488	44885	45233
44250.00	42771	43303	43817	44297	44738	45138	45488
44500.00	42998	43538	44057	44542	44987	45391	45744
44750.00	43226	43773	44297	44787	45237	45645	45999
45000.00	43453	44007	44537	45032	45486	45898	46254
45250.00	43680	44242	44777	45277	45736	46151	46509
45500.00	43907	44476	45017	45522	45986	46404	46765
45750.00	44135	44711	45257	45767	46235	46658	47020
46000.00	44362	44946	45497	46012	46485	46911	47275
46250.00	44589	45180	45738	46257	46735	47164	47530
46500.00	44817	45415	45978	46502	46984	47417	47785
46750.00	45044	45649	46218	46747	47234	47671	48041
47000.00	45271	45884	46458	46992	47483	47924	48296
47250.00	45499	46119	46698	47237	47733	48177	48551

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	7171	6504	5857	5231	4631	4059	3522
5750.00	7415	6750	6105	5481	4864	4316	3784
6000.00	7659	6996	6353	5731	5137	4572	4046
6250.00	7902	7242	6600	5982	5390	4829	4308
6500.00	8146	7488	6848	6232	5643	5085	4570
6750.00	8390	7734	7096	6482	5896	5342	4832
7000.00	8634	7979	7344	6733	6149	5598	5094
7250.00	8878	8225	7592	6983	6402	5855	5356
7500.00	9121	8471	7840	7233	6655	6111	5618
7750.00	9365	8717	8088	7483	6907	6368	5880
8000.00	9609	8963	8336	7734	7160	6624	6142
8250.00	9853	9209	8584	7984	7413	6881	6403
8500.00	10096	9454	8832	8234	7666	7137	6665
8750.00	10340	9700	9080	8485	7919	7393	6927
9000.00	10584	9946	9328	8735	8172	7650	7189
9250.00	10828	10192	9576	8985	8425	7906	7451
9500.00	11071	10438	9824	9236	8678	8163	7713
9750.00	11315	10683	10072	9486	8931	8419	7975
10000.00	11559	10929	10320	9736	9184	8676	8237
10250.00	11803	11175	10568	9986	9437	8932	8499
10500.00	12046	11421	10816	10237	9690	9189	8761
10750.00	12290	11667	11064	10487	9943	9445	9023
11000.00	12534	11913	11312	10737	10196	9702	9285
11250.00	12774	12157	11560	10991	10456	9970	9563
11500.00	13010	12399	11809	11248	10724	10252	9860
11750.00	13247	12641	12058	11506	10992	10534	10157
12000.00	13483	12883	12307	11763	11260	10816	10454
12250.00	13719	13125	12556	12020	11529	11098	10751
12500.00	13955	13367	12805	12278	11797	11380	11048
12750.00	14191	13609	13054	12535	12065	11662	11346
13000.00	14427	13851	13303	12792	12333	11943	11643
13250.00	14664	14093	13551	13050	12601	12225	11940
13500.00	14900	14335	13800	13307	12870	12507	12237
13750.00	15136	14577	14049	13564	13138	12789	12534
14000.00	15372	14820	14298	13822	13406	13071	12831

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	15608	15062	14547	14079	13674	13353	13128
14500.00	15845	15304	14796	14336	13942	13635	13425
14750.00	16081	15546	15045	14594	14210	13917	13722
15000.00	16317	15788	15294	14851	14479	14199	14019
15250.00	16553	16030	15543	15108	14747	14481	14316
15500.00	16789	16272	15792	15366	15015	14763	14614
15750.00	17026	16514	16041	15623	15283	15045	14911
16000.00	17262	16756	16290	15880	15551	15326	15208
16250.00	17498	16998	16539	16138	15820	15608	15505
16500.00	17732	17240	16789	16399	16093	15894	15803
16750.00	17965	17481	17041	16662	16369	16181	16101
17000.00	18198	17722	17292	16925	16644	16469	16399
17250.00	18431	17963	17543	17188	16920	16756	16697
17500.00	18664	18204	17794	17451	17195	17044	16995
17750.00	18897	18446	18046	17715	17471	17331	17293
18000.00	19130	18687	18297	17978	17746	17618	17592
18250.00	19364	18928	18548	18241	18022	17906	17890
18500.00	19597	19169	18799	18504	18297	18193	18188
18750.00	19830	19410	19051	18767	18573	18480	18486
19000.00	20063	19652	19302	19030	18849	18768	18784
19250.00	20296	19893	19553	19293	19124	19055	19082
19500.00	20529	20134	19805	19556	19400	19342	19381
19750.00	20762	20375	20056	19819	19675	19630	19679
20000.00	20995	20617	20307	20083	19951	19917	19977
20250.00	21228	20858	20558	20346	20226	20205	20275
20500.00	21461	21099	20810	20609	20502	20492	20573
20750.00	21695	21340	21061	20872	20778	20779	20871
21000.00	21928	21581	21312	21135	21053	21067	21170
21250.00	22161	21823	21563	21398	21329	21354	21468
21500.00	22391	22063	21813	21658	21599	21633	21754
21750.00	22620	22302	22063	21917	21866	21908	22034
22000.00	22849	22542	22313	22176	22134	22183	22315
22250.00	23078	22781	22562	22435	22401	22458	22595
22500.00	23307	23021	22812	22694	22669	22733	22876
22750.00	23536	23260	23062	22953	22937	23009	23156

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	23765	23500	23311	23212	23204	23284	23437
23250.00	23993	23739	23561	23471	23472	23559	23717
23500.00	24222	23979	23811	23730	23740	23834	23998
23750.00	24451	24218	24060	23989	24007	24109	24279
24000.00	24680	24458	24310	24248	24275	24385	24559
24250.00	24909	24698	24560	24507	24543	24660	24840
24500.00	25138	24937	24809	24766	24810	24935	25120
24750.00	25367	25177	25059	25025	25078	25210	25401
25000.00	25596	25416	25309	25284	25345	25485	25681
25250.00	25825	25656	25558	25543	25613	25760	25962
25500.00	26054	25895	25808	25802	25881	26036	26242
25750.00	26283	26135	26058	26061	26148	26311	26523
26000.00	26510	26373	26306	26318	26413	26582	26798
26250.00	26735	26609	26551	26571	26672	26845	27061
26500.00	26960	26844	26796	26825	26931	27107	27325
26750.00	27185	27080	27042	27078	27191	27370	27589
27000.00	27410	27315	27287	27331	27450	27633	27852
27250.00	27635	27551	27532	27584	27709	27896	28116
27500.00	27859	27786	27777	27837	27968	28159	28380
27750.00	28084	28022	28023	28091	28227	28422	28643
28000.00	28309	28257	28268	28344	28487	28685	28907
28250.00	28534	28493	28513	28597	28746	28948	29171
28500.00	28759	28729	28758	28850	29005	29211	29434
28750.00	28984	28964	29003	29104	29264	29473	29698
29000.00	29209	29200	29249	29357	29523	29736	29962
29250.00	29433	29435	29494	29610	29782	29999	30225
29500.00	29658	29671	29739	29863	30042	30262	30489
29750.00	29883	29906	29984	30116	30301	30525	30753
30000.00	30105	30138	30224	30362	30552	30779	31009
30250.00	30328	30369	30464	30608	30802	31032	31264
30500.00	30550	30601	30703	30854	31052	31285	31519
30750.00	30772	30832	30942	31100	31302	31538	31774
31000.00	30995	31064	31182	31345	31552	31792	32030
31250.00	31217	31295	31421	31591	31803	32045	32285
31500.00	31439	31527	31661	31837	32053	32298	32540

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31661	31758	31900	32082	32303	32551	32796
32000.00	31884	31989	32140	32328	32553	32804	33051
32250.00	32106	32221	32379	32574	32803	33058	33306
32500.00	32328	32452	32618	32820	33053	33311	33561
32750.00	32551	32684	32858	33065	33304	33564	33817
33000.00	32773	32915	33097	33311	33554	33817	34072
33250.00	32995	33147	33337	33557	33804	34070	34327
33500.00	33217	33378	33576	33802	34054	34324	34583
33750.00	33440	33609	33816	34048	34304	34577	34838
34000.00	33662	33841	34055	34294	34555	34830	35093
34250.00	33884	34072	34294	34540	34805	35083	35348
34500.00	34106	34304	34534	34785	35055	35336	35604
34750.00	34329	34535	34773	35031	35305	35590	35859
35000.00	34551	34767	35013	35277	35555	35843	36114
35250.00	34773	34998	35252	35522	35806	36096	36370
35500.00	34996	35229	35492	35768	36056	36349	36625
35750.00	35218	35461	35731	36014	36306	36602	36880
36000.00	35440	35692	35971	36259	36556	36856	37136
36250.00	35662	35924	36210	36505	36806	37109	37391
36500.00	35885	36155	36449	36751	37057	37362	37646
36750.00	36107	36387	36689	36997	37307	37615	37901
37000.00	36329	36618	36928	37242	37557	37868	38157
37250.00	36552	36849	37168	37488	37807	38122	38412
37500.00	36774	37081	37407	37734	38057	38375	38667
37750.00	36996	37312	37647	37979	38308	38628	38923
38000.00	37218	37544	37886	38225	38558	38881	39178
38250.00	37441	37775	38125	38471	38808	39134	39433
38500.00	37663	38007	38365	38717	39058	39388	39688
38750.00	37885	38238	38604	38962	39308	39641	39944
39000.00	38107	38469	38844	39208	39558	39894	40199
39250.00	38330	38701	39083	39454	39809	40147	40454
39500.00	38552	38932	39323	39699	40059	40400	40710
39750.00	38774	39164	39562	39945	40309	40654	40965
40000.00	38997	39395	39801	40191	40559	40907	41220
40250.00	39219	39627	40041	40437	40809	41160	41475

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	39441	39858	40280	40682	41060	41413	41731
40750.00	39663	40089	40520	40928	41310	41666	41986
41000.00	39886	40321	40759	41174	41560	41920	42241
41250.00	40108	40552	40999	41419	41810	42173	42497
41500.00	40330	40784	41238	41665	42060	42426	42752
41750.00	40553	41015	41477	41911	42311	42679	43007
42000.00	40778	41247	41713	42151	42553	42923	43250
42250.00	41003	41478	41949	42389	42794	43165	43491
42500.00	41229	41709	42184	42628	43036	43407	43732
42750.00	41454	41941	42420	42867	43277	43649	43973
43000.00	41680	42172	42655	43106	43518	43891	44215
43250.00	41905	42403	42891	43345	43759	44133	44456
43500.00	42131	42635	43126	43584	44001	44375	44697
43750.00	42356	42866	43362	43823	44242	44617	44938
44000.00	42582	43098	43597	44062	44483	44859	45179
44250.00	42807	43329	43833	44301	44724	45101	45420
44500.00	43033	43560	44068	44540	44966	45343	45661
44750.00	43259	43792	44304	44778	45207	45585	45902
45000.00	43484	44023	44539	45017	45448	45827	46143
45250.00	43710	44255	44775	45256	45689	46069	46384
45500.00	43935	44486	45010	45495	45931	46311	46625
45750.00	44161	44717	45246	45734	46172	46553	46866
46000.00	44386	44949	45481	45973	46413	46795	47108
46250.00	44612	45180	45717	46212	46654	47037	47349
46500.00	44837	45412	45952	46451	46896	47279	47590
46750.00	45063	45643	46188	46690	47137	47521	47831
47000.00	45288	45874	46423	46929	47378	47763	48072
47250.00	45514	46106	46659	47167	47619	48005	48313

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
5500.00	7057	6424	5812	5231	4674	4152	3665
5750.00	7301	6669	6060	5480	4926	4410	3931
6000.00	7544	6914	6306	5729	5178	4668	4197
6250.00	7787	7159	6553	5978	5431	4925	4463
6500.00	8031	7404	6800	6228	5683	5183	4730
6750.00	8274	7649	7047	6477	5936	5440	4996
7000.00	8517	7894	7294	6726	6188	5698	5262
7250.00	8761	8140	7541	6975	6440	5955	5528
7500.00	9004	8385	7788	7224	6693	6213	5794
7750.00	9247	8630	8035	7473	6945	6471	6060
8000.00	9491	8875	8282	7722	7198	6728	6326
8250.00	9734	9120	8529	7971	7450	6986	6593
8500.00	9977	9365	8776	8221	7702	7243	6859
8750.00	10221	9610	9023	8470	7955	7501	7125
9000.00	10464	9855	9270	8719	8207	7759	7391
9250.00	10707	10100	9517	8968	8460	8016	7657
9500.00	10951	10345	9764	9217	8712	8274	7923
9750.00	11194	10590	10011	9466	8964	8531	8189
10000.00	11437	10835	10258	9715	9217	8789	8455
10250.00	11681	11080	10505	9964	9469	9046	8722
10500.00	11924	11325	10752	10214	9722	9304	8988
10750.00	12167	11570	10999	10463	9974	9562	9254
11000.00	12411	11815	11246	10712	10226	9819	9520
11250.00	12652	12060	11496	10967	10488	10090	9800
11500.00	12890	12305	11748	11228	10761	10374	10096
11750.00	13128	12549	12000	11490	11034	10659	10392
12000.00	13367	12794	12252	11752	11307	10944	10688
12250.00	13605	13038	12504	12013	11580	11229	10984
12500.00	13843	13283	12756	12275	11854	11514	11280
12750.00	14081	13527	13008	12536	12127	11799	11575
13000.00	14319	13771	13261	12798	12400	12084	11871
13250.00	14558	14016	13513	13060	12673	12369	12167
13500.00	14796	14260	13765	13321	12946	12654	12463
13750.00	15034	14505	14017	13583	13219	12938	12759
14000.00	15272	14749	14269	13844	13492	13223	13055

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
14250.00	15511	14994	14521	14106	13765	13508	13351
14500.00	15749	15238	14773	14368	14038	13793	13647
14750.00	15987	15483	15025	14629	14311	14078	13943
15000.00	16225	15727	15277	14891	14584	14363	14239
15250.00	16464	15972	15529	15152	14857	14648	14535
15500.00	16702	16216	15782	15414	15130	14933	14830
15750.00	16940	16461	16034	15675	15403	15218	15126
16000.00	17178	16705	16286	15937	15676	15502	15422
16250.00	17417	16950	16538	16199	15949	15787	15718
16500.00	17654	17195	16793	16464	16225	16074	16015
16750.00	17891	17442	17050	16732	16503	16363	16313
17000.00	18128	17688	17306	16999	16781	16651	16611
17250.00	18365	17934	17563	17267	17059	16939	16909
17500.00	18602	18180	17819	17534	17337	17227	17206
17750.00	18839	18427	18076	17801	17614	17515	17504
18000.00	19075	18673	18333	18069	17892	17803	17802
18250.00	19312	18919	18589	18336	18170	18091	18100
18500.00	19549	19165	18846	18603	18448	18379	18397
18750.00	19786	19412	19102	18871	18726	18667	18695
19000.00	20023	19658	19359	19138	19004	18955	18993
19250.00	20260	19904	19615	19406	19281	19243	19291
19500.00	20497	20150	19872	19673	19559	19531	19588
19750.00	20734	20397	20129	19940	19837	19819	19886
20000.00	20971	20643	20385	20208	20115	20107	20184
20250.00	21208	20889	20642	20475	20390	20395	20482
20500.00	21445	21135	20898	20742	20671	20683	20779
20750.00	21682	21382	21155	21010	20949	20972	21077
21000.00	21919	21628	21412	21277	21226	21260	21375
21250.00	22156	21874	21668	21544	21504	21548	21673
21500.00	22390	22118	21922	21807	21776	21827	21958
21750.00	22622	22361	22174	22068	22044	22103	22239
22000.00	22855	22604	22426	22329	22313	22378	22520
22250.00	23088	22847	22678	22589	22581	22654	22800
22500.00	23320	23090	22931	22850	22850	22930	23081
22750.00	23553	23333	23183	23111	23118	23205	23361

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
23000.00	23786	23576	23435	23371	23387	23461	23642
23250.00	24018	23819	23687	23632	23656	23757	23923
23500.00	24251	24062	23940	23893	23924	24033	24203
23750.00	24484	24305	24192	24153	24193	24308	24484
24000.00	24716	24548	24444	24414	24461	24584	24765
24250.00	24949	24791	24697	24675	24730	24860	25045
24500.00	25182	25034	24949	24935	24998	25135	25326
24750.00	25414	25277	25201	25196	25267	25411	25606
25000.00	25647	25520	25453	25457	25535	25687	25887
25250.00	25880	25763	25706	25718	25804	25963	26168
25500.00	26112	26006	25958	25978	26073	26238	26448
25750.00	26345	26249	26210	26239	26341	26514	26729
26000.00	26575	26490	26460	26497	26607	26785	27004
26250.00	26802	26726	26706	26751	26866	27048	27267
26500.00	27028	26962	26951	27004	27126	27311	27531
26750.00	27254	27198	27197	27258	27386	27574	27794
27000.00	27480	27434	27442	27512	27645	27837	28057
27250.00	27707	27671	27688	27765	27905	28099	28321
27500.00	27933	27907	27933	28019	28165	28362	28584
27750.00	28159	28143	28179	28272	28424	28625	28848
28000.00	28386	28379	28424	28526	28684	28888	29111
28250.00	28612	28615	28670	28780	28944	29151	29375
28500.00	28838	28851	28915	29033	29203	29414	29638
28750.00	29064	29087	29160	29287	29463	29676	29902
29000.00	29291	29324	29406	29540	29722	29939	30165
29250.00	29517	29560	29651	29794	29982	30202	30429
29500.00	29743	29796	29897	30048	30242	30465	30692
29750.00	29969	30032	30142	30301	30501	30728	30956
30000.00	30191	30262	30380	30544	30748	30977	31206
30250.00	30412	30491	30616	30786	30995	31226	31456
30500.00	30633	30721	30853	31029	31241	31475	31706
30750.00	30854	30950	31089	31271	31487	31724	31956
31000.00	31075	31179	31326	31513	31733	31972	32206
31250.00	31296	31409	31563	31755	31980	32221	32456
31500.00	31517	31638	31799	31998	32226	32470	32706

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
31750.00	31738	31868	32036	32240	32472	32718	32956
32000.00	31959	32097	32273	32482	32719	32967	33206
32250.00	32180	32326	32509	32725	32965	33216	33456
32500.00	32401	32556	32746	32967	33211	33465	33706
32750.00	32622	32785	32983	33209	33457	33713	33956
33000.00	32843	33015	33219	33451	33704	33962	34206
33250.00	33064	33244	33456	33694	33950	34211	34456
33500.00	33285	33473	33692	33936	34196	34460	34706
33750.00	33506	33703	33929	34178	34442	34708	34956
34000.00	33727	33932	34166	34420	34689	34957	35206
34250.00	33948	34162	34402	34663	34935	35206	35456
34500.00	34169	34391	34639	34905	35181	35454	35706
34750.00	34390	34620	34876	35147	35427	35703	35956
35000.00	34611	34850	35112	35390	35674	35952	36206
35250.00	34833	35079	35349	35632	35920	36201	36456
35500.00	35054	35309	35586	35874	36166	36449	36706
35750.00	35275	35538	35822	36116	36413	36698	36956
36000.00	35496	35767	36059	36359	36659	36947	37206
36250.00	35717	35997	36295	36601	36905	37195	37456
36500.00	35938	36226	36532	36843	37151	37444	37706
36750.00	36159	36456	36769	37085	37398	37693	37956
37000.00	36380	36685	37005	37328	37644	37942	38206
37250.00	36601	36914	37242	37570	37890	38190	38456
37500.00	36822	37144	37479	37812	38136	38439	38706
37750.00	37043	37373	37715	38054	38383	38688	38956
38000.00	37264	37602	37952	38297	38629	38937	39206
38250.00	37485	37832	38189	38539	38875	39185	39456
38500.00	37706	38061	38425	38781	39121	39434	39706
38750.00	37927	38291	38662	39024	39368	39683	39956
39000.00	38148	38520	38898	39266	39614	39931	40206
39250.00	38369	38749	39135	39508	39860	40180	40456
39500.00	38590	38979	39372	39750	40107	40429	40706
39750.00	38811	39208	39608	39993	40353	40678	40956
40000.00	39032	39438	39845	40235	40599	40926	41206
40250.00	39253	39667	40082	40477	40845	41175	41456

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 6

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
40500.00	39474	39896	40318	40719	41092	41424	41706
40750.00	39695	40126	40555	40962	41338	41673	41956
41000.00	39916	40355	40791	41204	41584	41921	42206
41250.00	40137	40585	41028	41446	41830	42170	42456
41500.00	40358	40814	41265	41689	42077	42419	42706
41750.00	40579	41043	41501	41931	42323	42667	42956
42000.00	40802	41271	41732	42163	42556	42900	43187
42250.00	41025	41498	41961	42394	42787	43130	43416
42500.00	41247	41725	42191	42625	43018	43361	43644
42750.00	41470	41952	42421	42856	43249	43591	43872
43000.00	41693	42179	42650	43087	43480	43821	44101
43250.00	41915	42406	42880	43318	43711	44051	44329
43500.00	42138	42633	43109	43549	43942	44281	44557
43750.00	42361	42860	43339	43780	44173	44512	44786
44000.00	42583	43087	43568	44011	44404	44742	45014
44250.00	42806	43314	43798	44242	44635	44972	45242
44500.00	43028	43540	44028	44472	44866	45202	45470
44750.00	43251	43767	44257	44703	45097	45433	45699
45000.00	43474	43994	44487	44934	45328	45663	45927
45250.00	43696	44221	44716	45165	45559	45893	46155
45500.00	43919	44448	44946	45396	45790	46123	46384
45750.00	44142	44675	45175	45627	46021	46353	46612
46000.00	44364	44902	45405	45858	46252	46584	46840
46250.00	44587	45129	45634	46089	46483	46814	47069
46500.00	44810	45356	45864	46320	46714	47044	47297
46750.00	45032	45583	46094	46551	46945	47274	47525
47000.00	45255	45810	46323	46782	47176	47504	47753
47250.00	45478	46037	46553	47013	47407	47735	47982

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	77	78	92	129	191	272	368
500.00	188	210	250	311	390	481	580
750.00	299	342	408	492	590	691	793
1000.00	517	575	650	736	837	938	1040
1250.00	740	812	895	987	1087	1187	1288
1500.00	963	1049	1141	1236	1336	1436	1536
1750.00	1186	1286	1386	1486	1585	1685	1784
2000.00	1436	1536	1636	1735	1835	1935	2034
2250.00	1686	1786	1885	1985	2085	2184	2284
2500.00	1935	2035	2135	2235	2335	2434	2534
2750.00	2185	2285	2385	2485	2584	2684	2784
3000.00	2435	2535	2635	2735	2834	2934	3033
3250.00	2685	2785	2885	2984	3084	3184	3283
3500.00	2935	3035	3135	3234	3334	3433	3533
3750.00	3184	3285	3384	3484	3584	3683	3783
4000.00	3434	3534	3634	3734	3833	3933	4033
4250.00	3684	3784	3884	3984	4083	4183	4283
4500.00	3934	4034	4134	4233	4333	4433	4532
4750.00	4184	4284	4384	4483	4583	4683	4782
5000.00	4434	4534	4633	4733	4833	4932	5032
5250.00	4683	4783	4883	4983	5083	5182	5282
5500.00	4933	5033	5133	5233	5332	5432	5532
5750.00	5183	5283	5383	5483	5582	5682	5781
6000.00	5433	5533	5633	5732	5832	5932	6031
6250.00	5683	5783	5882	5982	6082	6181	6281
6500.00	5932	6032	6132	6232	6332	6431	6531
6750.00	6182	6282	6382	6482	6581	6681	6781
7000.00	6432	6532	6632	6732	6831	6931	7030
7250.00	6682	6782	6882	6981	7081	7181	7280
7500.00	6932	7032	7132	7231	7331	7430	7530
7750.00	7181	7282	7381	7481	7581	7680	7780
8000.00	7431	7531	7631	7731	7830	7930	8030
8250.00	7681	7781	7881	7981	8080	8180	8280
8500.00	7931	8031	8131	8231	8330	8430	8529
8750.00	8181	8281	8381	8481	8580	8680	8779

R EFFECTIVITY: ALL

R

005B

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 3 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8434	8534	8634	8733	8833	8932	9025
9250.00	8687	8787	8886	8986	9086	9184	9271
9500.00	8951	9051	9151	9251	9350	9444	9518

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	90	92	168	153	226	319	422
500.00	218	246	294	365	451	547	648
750.00	346	401	480	576	675	775	875
1000.00	575	642	726	824	924	1024	1124
1250.00	808	886	976	1074	1174	1273	1373
1500.00	1041	1130	1225	1324	1424	1523	1623
1750.00	1275	1374	1474	1574	1673	1773	1873
2000.00	1524	1624	1724	1824	1923	2023	2123
2250.00	1774	1874	1974	2074	2173	2273	2372
2500.00	2024	2124	2224	2323	2423	2523	2622
2750.00	2274	2373	2474	2573	2673	2773	2872
3000.00	2524	2624	2723	2823	2923	3022	3122
3250.00	2774	2874	2973	3073	3173	3272	3372
3500.00	3023	3123	3223	3323	3423	3522	3622
3750.00	3273	3373	3473	3573	3672	3772	3872
4000.00	3523	3623	3723	3823	3922	4022	4122
4250.00	3773	3873	3973	4073	4172	4272	4371
4500.00	4023	4123	4223	4322	4422	4522	4621
4750.00	4273	7373	4473	4572	4672	4772	4871
5000.00	4523	4623	4722	4822	4922	5021	5121
5250.00	4773	4873	4972	5072	5172	5271	5371
5500.00	5022	5122	5222	5322	5422	5521	5621
5750.00	5272	5372	5472	5572	5671	5771	5871
6000.00	5522	5622	5722	5822	5921	6021	6121
6250.00	5772	5872	5972	6072	6171	6271	6371
6500.00	6022	6122	6222	6321	6421	6521	6620
6750.00	6272	6372	6472	6571	6671	6771	6870
7000.00	6522	6622	6721	6821	6921	7020	7120
7250.00	6772	6872	6971	7071	7171	7270	7370
7500.00	7021	7121	7221	7321	7421	7520	7620
7750.00	7271	7371	7471	7571	7670	7770	7870
8000.00	7521	7621	7721	7821	7920	8020	8120
8250.00	7771	7871	7971	8071	8170	8270	8370
8500.00	8021	8121	8221	8320	8420	8520	8619
8750.00	8271	8371	8471	8571	8670	8769	8867

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 2 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8524	8624	8724	8824	8923	9019	9106
9250.00	8777	8877	8977	9076	9176	9268	9344
9500.00	9040	9141	9241	9341	9437	9520	9580

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	111	113	133	191	278	379	485
500.00	257	292	349	427	520	621	723
750.00	403	472	564	663	762	862	962
1000.00	640	717	812	912	1012	1111	1211
1250.00	881	966	1062	1162	1262	1361	1461
1500.00	1122	1214	1312	1412	1512	1611	1711
1750.00	1363	1463	1562	1662	1762	1861	1961
2000.00	1613	1712	1812	1912	2011	2111	2211
2250.00	1862	1962	2062	2162	2261	2361	2461
2500.00	2112	2212	2312	2412	2511	2611	2711
2750.00	2362	2462	2562	2662	2761	2861	2961
3000.00	2612	2712	2812	2912	3011	3111	3211
3250.00	2862	2962	3062	3162	3261	3361	3461
3500.00	3112	3212	3312	3411	3511	3611	3711
3750.00	3362	3462	3562	3661	3761	3861	3961
4000.00	3612	3712	3812	3911	4011	4111	4210
4250.00	3862	3962	4062	4161	4261	4361	4460
4500.00	4112	4212	4312	4411	4511	4611	4710
4750.00	4362	4462	4561	4661	4761	4860	4960
5000.00	4612	4712	4811	4911	5011	5110	5210
5250.00	4862	4962	5061	5161	5261	5360	5460
5500.00	5112	5212	5311	5411	5511	5610	5710
5750.00	5362	5461	5561	5661	5761	5860	5960
6000.00	5612	5711	5811	5911	6011	6110	6210
6250.00	5861	5961	6061	6161	6260	6360	6460
6500.00	6111	6211	6311	6411	6510	6610	6710
6750.00	6361	6461	6561	6661	6760	6860	6960
7000.00	6611	6711	6811	6911	7010	7110	7210
7250.00	6861	6961	7061	7161	7260	7360	7460
7500.00	7111	7211	7311	7410	7510	7610	7710
7750.00	7361	7461	7561	7660	7760	7860	7960
8000.00	7611	7711	7811	7910	8010	8110	8209
8250.00	7861	7961	8061	8160	8260	8360	8459
8500.00	8111	8211	8311	8410	8510	8610	8709
8750.00	8361	8461	8561	8661	8760	8858	8956

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 1 DEG. NOSE DOWN

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8613	8714	8814	8913	9011	9101	9183
9250.00	8865	8966	9067	9166	9261	9343	9410
9500.00	9126	9228	9329	9426	9514	9584	9633

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	140	145	174	250	350	452	556
500.00	305	349	412	500	600	701	803
750.00	469	553	651	750	850	949	1049
1000.00	712	801	900	1000	1100	1199	1299
1250.00	958	1051	1150	1250	1350	1449	1549
1500.00	1205	1301	1400	1500	1600	1699	1799
1750.00	1451	1551	1650	1750	1850	1949	2049
2000.00	1701	1801	1900	2000	2100	2199	2299
2250.00	1951	2051	2150	2250	2350	2449	2549
2500.00	2201	2301	2400	2500	2600	2699	2799
2750.00	2451	2551	2650	2750	2850	2949	3049
3000.00	2701	2801	2900	3000	3100	3199	3299
3250.00	2951	3051	3150	3250	3350	3449	3549
3500.00	3201	3301	3400	3500	3600	3699	3799
3750.00	3451	3551	3650	3750	3850	3949	4049
4000.00	3701	3801	3900	4000	4100	4199	4299
4250.00	3951	4051	4150	4250	4350	4449	4549
4500.00	4201	4301	4400	4500	4600	4699	4799
4570.00	4451	4551	4650	4750	4850	4949	5049
5000.00	4701	4801	4900	5000	5100	5199	5299
5250.00	4951	5051	5150	5250	5350	5449	5549
5500.00	5201	5301	5400	5500	5600	5699	5799
5750.00	5451	5551	5650	5750	5850	5949	6049
6000.00	5701	5801	5900	6000	6100	6199	6299
6250.00	5951	6051	6150	6250	6350	6449	6549
6500.00	6201	6301	6400	6500	6600	6699	6799
6750.00	6451	6551	6650	6750	6850	6949	7049
7000.00	6701	6801	6900	7000	7100	7199	7299
7250.00	6951	7051	7150	7250	7350	7449	7549
7500.00	7201	7301	7400	7500	7600	7699	7799
7750.00	7451	7551	7650	7750	7850	7949	8049
8000.00	7701	7801	7900	8000	8100	8199	8298
8250.00	7951	8051	8150	8250	8350	8449	8548
8500.00	8201	8301	8400	8500	8600	8699	8797
8750.00	8451	8551	8651	8750	8849	8946	9041

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 0 DEG.

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8700	8801	8902	9000	9092	9178	9255
9250.00	8950	9052	9153	9250	9336	9409	9469
9500.00	9206	9308	9408	9500	9576	9635	9676

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7120
PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	179	192	240	336	436	535	636
500.00	362	416	489	587	687	786	887
750.00	544	640	738	838	937	1037	1137
1000.00	791	889	988	1088	1188	1287	1387
1250.00	1040	1139	1238	1338	1438	1537	1637
1500.00	1290	1389	1488	1588	1688	1787	1887
1750.00	1539	1639	1738	1838	1938	2038	2137
2000.00	1789	1889	1989	2088	2188	2288	2387
2250.00	2039	2139	2239	2338	2438	2538	2638
2500.00	2289	2389	2489	2588	2688	2788	2888
2750.00	2539	2639	2739	2838	2938	3038	3138
3000.00	2789	2889	2989	3088	3188	3288	3388
3250.00	3039	3139	3239	3338	3438	3538	3638
3500.00	3289	3389	3489	3589	3688	3788	3888
3750.00	3539	3639	3739	3839	3938	4038	4138
4000.00	3790	3889	3989	4089	4188	4288	4388
4250.00	4040	4139	4239	4339	4438	4538	4638
4500.00	4290	4389	4489	4589	4688	4788	4888
4750.00	4540	4640	4739	4839	4938	5038	5136
5000.00	4790	4890	4989	5089	5189	5288	5388
5250.00	5040	5140	5239	5339	5439	5538	5638
5500.00	5290	5390	5489	5589	5689	5788	5888
5750.00	5540	5640	5739	5839	5939	6039	6138
6000.00	5790	5890	5989	6089	6189	6289	6388
6250.00	6040	6140	6240	6339	6439	6539	6639
6500.00	6290	6390	6490	6589	6689	6789	6889
6750.00	6540	6640	6740	6839	6939	7039	7139
7000.00	6790	6890	6990	7089	7189	7289	7389
7250.00	7040	7140	7240	7339	7439	7539	7639
7500.00	7290	7390	7490	7590	7689	7789	7889
7750.00	7540	7640	7740	7840	7939	8039	8139
8000.00	7791	7890	7990	8090	8189	8289	8386
8250.00	8041	8140	8240	8340	8439	8539	8633
8500.00	8291	8390	8490	8590	8689	8788	8881
8750.00	8540	8640	8739	8838	8936	9033	9120

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 1 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8785	8885	8984	9079	9167	9249	9320
9250.00	9030	9131	9230	9319	9397	9465	9519
9500.00	9278	9379	9474	9555	9622	9674	9710

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	227	251	324	424	523	623	723
500.00	428	489	575	675	774	874	974
750.00	629	727	826	926	1025	1125	1225
1000.00	877	977	1076	1176	1276	1375	1475
1250.00	1127	1227	1326	1426	1526	1625	1725
1500.00	1377	1477	1576	1676	1776	1876	1976
1750.00	1627	1727	1827	1926	2026	2126	2226
2000.00	1877	1977	2077	2176	2276	2376	2476
2250.00	2128	2227	2327	2426	2526	2626	2726
2500.00	2378	2477	2577	2677	2776	2876	2976
2750.00	2628	2727	2827	2927	3026	3126	3226
3000.00	2878	2978	3077	3177	3277	3376	3476
3250.00	3128	3228	3327	3427	3527	3626	3726
3500.00	3378	3478	3577	3677	3777	3877	3977
3750.00	3628	3728	3828	3927	4027	4127	4227
4000.00	3878	3978	4078	4177	4277	4377	4477
4250.00	4129	4228	4328	4427	4527	4627	4727
4500.00	4379	4478	4578	4678	4777	4877	4977
4750.00	4629	4728	4828	4928	5027	5127	5227
5000.00	4879	4979	5078	5178	5278	5377	5477
5250.00	5129	5229	5328	5428	5528	5627	5727
5500.00	5379	5479	5578	5678	5778	5878	5978
5750.00	5629	5729	5829	5928	6028	6128	6228
6000.00	5879	5979	6079	6178	6278	6378	6478
6250.00	6129	6229	6329	6428	6528	6628	6728
6500.00	6380	6479	6579	6679	6778	6878	6978
6750.00	6630	6729	6829	6929	7028	7128	7228
7000.00	6880	6980	7079	7179	7279	7378	7478
7250.00	7130	7230	7329	7429	7529	7628	7728
7500.00	7380	7480	7579	7679	7779	7879	7979
7750.00	7630	7730	7830	7929	8029	8128	8228
8000.00	7880	7980	8080	8179	8279	8377	8472
8250.00	8130	8230	8330	8429	8529	8625	8715
8500.00	8381	8480	8580	8680	8779	8874	8959
8750.00	8629	8728	8827	8926	9023	9114	9193

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 2 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8866	8965	9061	9151	9237	9313	9377
9250.00	9103	9202	9294	9377	9450	9512	9561
9500.00	9342	9439	9524	9597	9657	9703	9737

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
250.00	285	324	412	512	611	711	811
500.00	500	569	663	763	862	962	1062
750.00	716	815	914	1014	1113	1213	1313
1000.00	965	1065	1164	1264	1364	1463	1563
1250.00	1215	1315	1414	1514	1614	1714	1814
1500.00	1465	1565	1665	1764	1864	1964	2064
1750.00	1716	1815	1915	2014	2114	2214	2314
2000.00	1966	2065	2165	2265	2364	2464	2564
2250.00	2216	2316	2415	2515	2615	2714	2814
2500.00	2466	2566	2665	2765	2865	2965	3065
2750.00	2716	2816	2916	3015	3115	3215	3315
3000.00	2967	3066	3166	3265	3365	3465	3565
3250.00	3217	3316	3416	3516	3615	3715	3815
3500.00	3467	3567	3666	3766	3865	3965	4065
3750.00	3717	3817	3916	4016	4116	4216	4316
4000.00	3967	4067	4167	4266	4366	4466	4566
4250.00	4217	4317	4417	4516	4616	4716	4816
4500.00	4468	4567	4667	4767	4866	4966	5066
4750.00	4718	4817	4917	5017	5116	5216	5316
5000.00	4968	5068	5167	5267	5367	5466	5566
5250.00	5218	5318	5417	5517	5617	5717	5817
5500.00	5468	5568	5668	5767	5867	5967	6067
5750.00	5719	5818	5918	6017	6117	6217	6317
6000.00	5969	6068	6168	6268	6367	6467	6567
6250.00	6219	6319	6418	6418	6618	6717	6817
6500.00	6469	6569	6668	6768	6868	6968	7068
6750.00	6719	6819	6919	7018	7118	7218	7318
7000.00	6970	7069	7169	7268	7368	7468	7568
7250.00	7220	7319	7419	7519	7618	7718	7818
7500.00	7470	7570	7669	7769	7868	7968	8068
7750.00	7720	7820	7919	8019	8118	8218	8317
8000.00	7970	8070	8169	8269	8367	8463	8555
8250.00	8220	8320	8420	8519	8616	8708	8793
8500.00	8469	8570	8670	8769	8865	8953	9031
8750.00	8716	8816	8915	9013	9106	9188	9258

FUEL SIGHT GAGE CORRECTION TABLE (POUNDS VS. POUNDS)

STICK 7

PITCH ATTITUDE = 3 DEG. NOSE UP

ROLL ATTITUDES IN DEGREES

STICK READING POUNDS	WING UP 3	2	1	LEVEL 0	1	WING DOWN 2	3
9000.00	8943	9040	9133	9221	9301	9370	9427
9250.00	9171	9265	9351	9428	9496	9552	9596
9500.00	9398	9487	9564	9631	9684	9727	9757

TANK SUMP DRAIN VALVES - SERVICING

1. General

Five fuel and water drain valves are installed in each wing lower surface; one in the outboard section of tanks 2L and 2R, two in the inboard sections of tank 2L and 2R, and two each in tanks 1 and 3. One of the drain valves in each tank is located in the surge box area next to the fuel boost pumps (Ref. Fig. 301).

On aircraft having wing center section tanks, one additional sump drain valve is installed in the lower surface of tank 1A and 3A. These valves are operated by probes which extend downward through fuel drain tubes to accessible locations below the fuselage.

2. Equipment and Materials

Fuel Drain Extension (G/ITEL 28-23-01)

Fuel Drain Hose Adapter (G/ITEL 28-23-04)

Five-eighths inch inside dia. hose

Large container to catch draining fuel

Grease - General Aircraft MIL-G-23827B or equivalent

3. Servicing

A. Drain Water From Wing Fuel Tank Sumps

CR CR Refer to General Policies and Procedures Manual, Chapter/Section 7-2-1, for sump draining policies.

NOTE: Drain tank sumps prior to each fueling.

(1) Using correct size slot screwdriver, rotate poppet head full counterclockwise.

CAUTION: DURING COLD WEATHER OPERATION, ICE COLLECTED IN TANK SUMP AREAS MAY PREVENT DRAINING OF SUMPS. IF THIS OCCURS, HEAT SHOULD BE APPLIED TO THE LOWER WING SURFACE (USING EXPLOSION-PROOF HOT AIR SOURCE OR HEAT BLANKETS). AVOID WING SKIN TEMPERATURE IN EXCESS OF 200°F (93°C). DO NOT ASSUME THAT ALL ICE HAS MELTED IF IT IS POSSIBLE TO DRAIN FUEL FROM DRAIN VALVE AFTER SEVERAL MINUTES OF HEAT APPLICATION. ICE ADJACENT TO THE VALVE MAY MELT AND DRAIN BUT A SUBSTANTIAL AMOUNT OF ADJACENT ICE MAY REMAIN. IF FUEL DOES FLOW FROM THE DRAIN VALVE, CONTINUE TO APPLY HEAT FOR A SHORT TIME AND RECHECK SUMPED FLUID FOR WATER. CONTINUE THIS UNTIL NO MORE WATER IS SUMPED.

(2) Using adapter on fuel drain extension, push up poppet head to open drain valve. Continue to drain fuel until fuel is clear of water (Ref. Fig. 301).

(3) Release poppet and remove fuel drain extension.

(4) Turn poppet head clockwise to align tangs of poppet head with closed position index marks.

(5) Check for fuel leakage. There must be no evidence of leakage.

B. Drain Water From Center Section Fuel Tank

(1) On aircraft 025-026 and 028-031, using slot screwdriver, rotate drain valve probe 90 degrees and push in to open drain valve. Drain fuel until it is clear of water (Ref. Fig. 301).

(2) To terminate draining, release upward force and rotate probe 90 degrees to locked position. Probe is locked when screwdriver slot is aligned with index slots in drain tube.

R (1) On aircraft 032-999, using slot screwdriver, rotate drain valve probe 90 degrees to unlocked position. Push probe upward and rotate 90 degrees to lock drain valve in open position.

R (2) To terminate draining, rotate probe 90 degrees to unlocked position. Release upward pressure and allow spring force to extend probe. Rotate probe 90 degrees to locked position.

NOTE: Valve is locked in open and closed positions when screwdriver slot is in alignment with index slots in drain tube.

C. Drain Residual Fuel From Wing Tank

(1) Using slot screwdriver, rotate the primary poppet head counterclockwise until tangs contact seat. Continue counterclockwise rotation to unscrew poppet assembly out of drain valve body (Ref. Fig. 301).

(2) Attach a suitable five-eighths inch inside diameter hose, to the fuel drain hose adapter.

R R CAUTION: BE PREPARED TO CATCH DRAINING FUEL AS FUEL DRAIN HOSE ADAPTER IS SCREWED INTO DRAIN VALVE BODY.

(3) Screw adapter into drain valve body and catch draining fuel in suitable container.

R (4) Remove adapter when fuel has stopped draining.

(5) Install new lightly greased O-ring packing on poppet assembly seat.

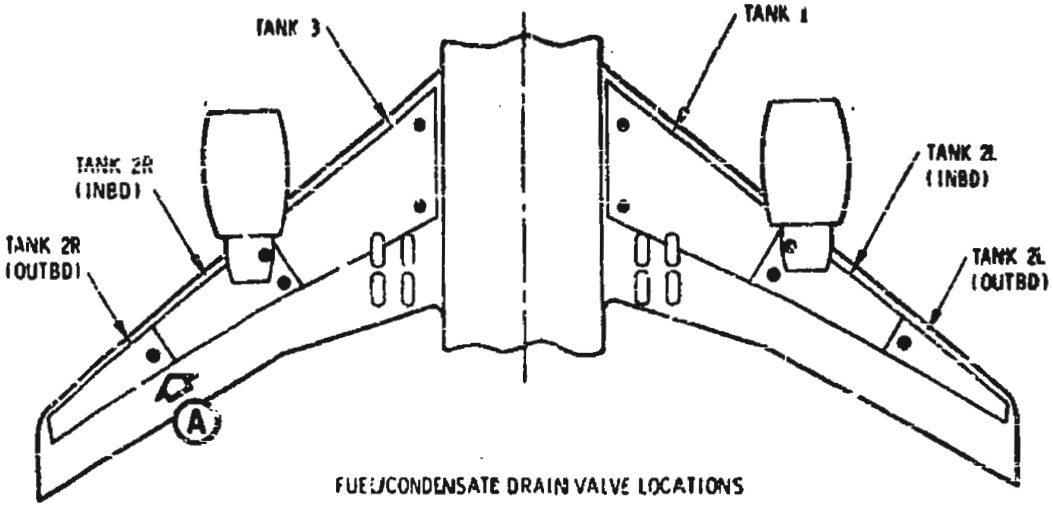
(6) Screw poppet assembly into drain valve body and tighten to a torque value of 60 to 80 lb in.

(7) Check operation of primary poppet by rotating poppet head counterclockwise (to unlock position) and pushing inward (to drain position). Verify that the primary poppet assembly operates easily with no evidence of binding. Relax force on poppet and rotate it clockwise to the locked position. Verify that the operation is smooth with no hesitation or drag.

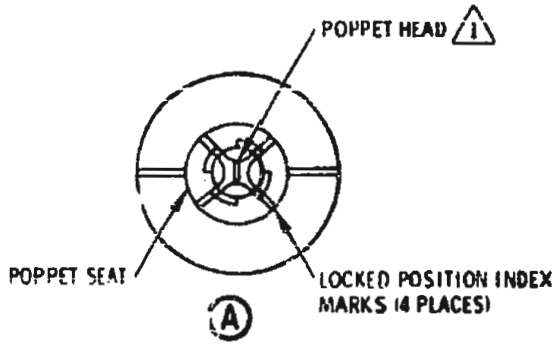
D. Drain Residual Fuel From Center Section Tank

(1) Position container directly under drain valve installation.

(2) Use Step 3B procedures except do not restore drain valve probe to down and locked position until all fuel is drained.



FUEL/CONDENSATE DRAIN VALVE LOCATIONS



WING TANK FUEL/CONDENSATE
DRAIN VALVE
(TYPICAL 10 PLACES)

1 TURN 30° CCW AND PUSH TO DRAIN
RELEASE PRESSURE AND TURN 30° CW
TO STOP DRAINING
POPPET HEAD IS IN LOCKED POSITION WHEN
FOUR TANGS ALIGN WITH INDEX MARKS
(AS SHOWN)

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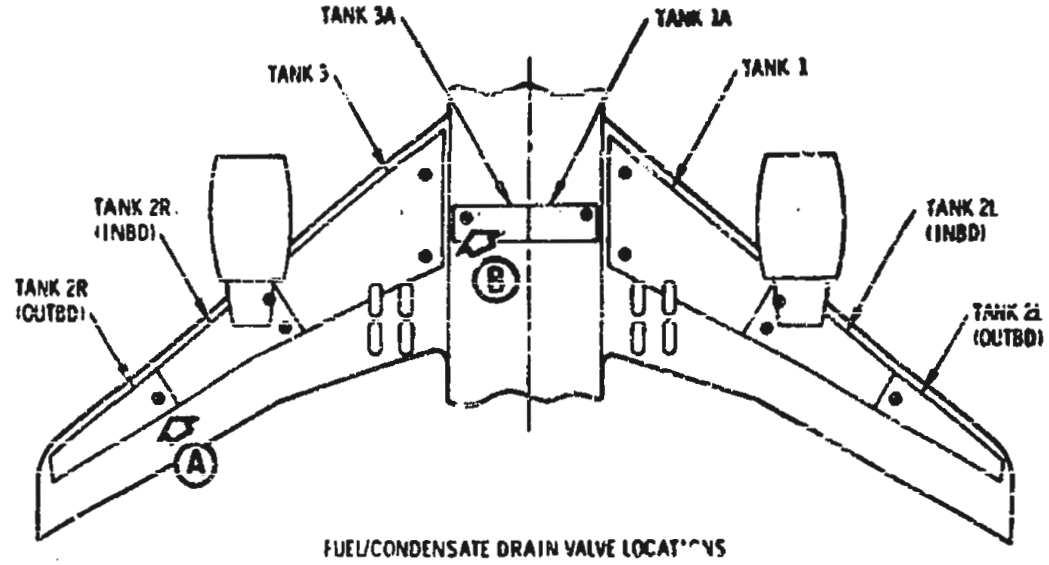
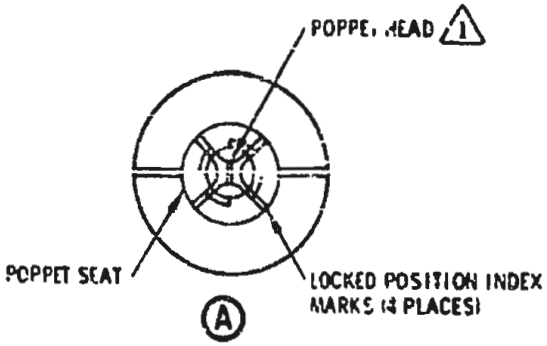
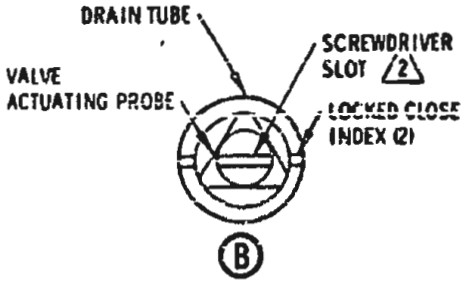
Tank Sump Drain Valves
Figure 301



FUEL/CONDENSATE DRAIN VALVE LOCATIONS



WING TANK FUEL/CONDENSATE DRAIN VALVE (TYPICAL 10 PLACES)



TANK 1A/3A FUEL CONDENSATE DRAIN VALVE (TYPICAL 2 PLACES)

1 TURN 30° CCW AND PUSH TO DRAIN
RELEASE PRESSURE AND TURN 30° CW TO STOP DRAINING
POPPET HEAD IS IN LOCKED POSITION WHEN FOUR TANGS ALIGN WITH INDEX MARKS (AS SHOWN)

2 TURN PROBE 90 DEGREES AND PUSH IN TO DRAIN
RELEASE PRESSURE AND TURN 90° TO LOCKED POSITION TO STOP DRAINING
VALVE IS LOCKED CLOSED WHEN SLOT AND INDEX MARKS LINE UP (AS SHOWN)

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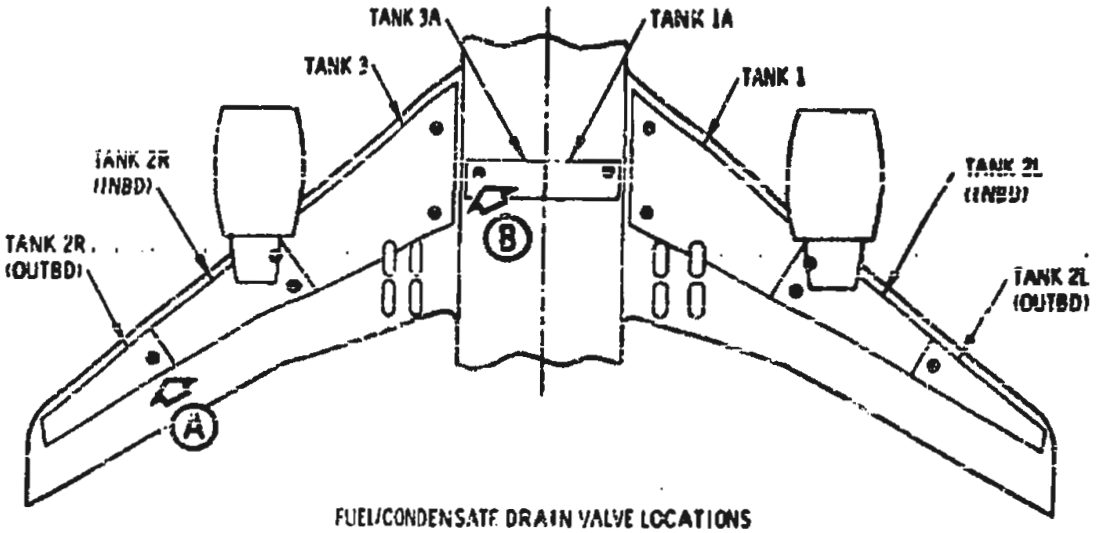
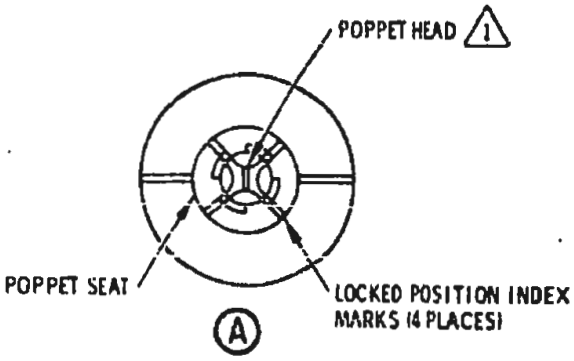
Tank Sump Drain Valves
Figure 301

EFFECTIVITY: 025-026, 028-031

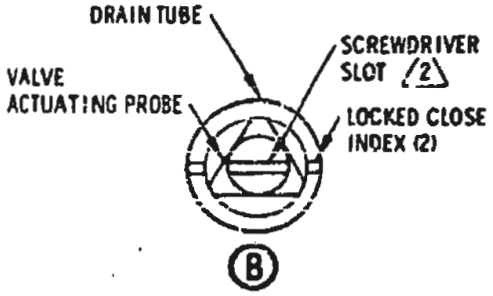
001B



FUEL/CONDENSATE DRAIN VALVE LOCATIONS



WING TANK FUEL/CONDENSATE DRAIN VALVE (TYPICAL 10 PLACES)



TANK 1A/3A FUEL CONDENSATE DRAIN VALVE (TYPICAL 2 PLACES)

1 TURN 30° CCW AND PUSH TO DRAIN RELEASE PRESSURE AND TURN 30° CW TO STOP DRAINING
POPPET HEAD IS IN LOCKED POSITION WHEN FOUR TANGS ALIGN WITH INDEX MARKS (AS SHOWN)

2 TO DRAIN - ROTATE SCREWDRIVER SLOT 90 DEGREES TO UNLOCK VALVE ACTUATING PROBE. PUSH UP TO STOP AND ROTATE 90 DEGREES TO LOCK VALVE IN OPEN POSITION

TO CLOSE - ROTATE SCREWDRIVER SLOT 90 DEGREES AND ALLOW SPRING FORCE TO EXTEND ACTUATING PROBE. ROTATE PROBE 90 DEGREES TO LOCK VALVE IN CLOSED POSITION

NOTE: VALVE IS IN LOCKED-OPEN AND LOCKED-CLOSED POSITIONS WHEN SCREWDRIVER SLOT IS ALIGNED WITH INDEX SLOTS IN DRAIN TUBE

M1-0000-28-1414

Tank Sump Drain Valves
Figure 301

C

UNDERWING PRESSURE-FUELING - SERVICING

C 1. General

C Dual fueling hose nozzle adapters are located at fueling C stations in the left and right wing leading edge sections (Ref. C Fig. 301). Each adapter assembly is connected to a cross-ship C fueling/defueling manifold. Pressure fueling is accomplished by C pumping fuel (using a refueler source pressure of 45 (±5) psi C into the manifold and selectively or simultaneously into each C tank through pressure-operated, solenoid-controlled, C dual-diaphragm/poppet valves. The aircraft is equipped with two C of these valves for each of the number 1 and 3 tanks, one for C each 1A and 3A tank, and one each for the two section 2L and 2R C tanks. An electrically operated fueling/defueling manifold C isolation valve, when opened, permits cross-ship refueling of C all tanks with fueling hoses connected only at one of the two C fueling stations. All of the valve control switches, valve C position lights, and indicators used during normal refueling C operations are located on the fueling/defueling panel at the C right wing fueling station (Ref. Fig. 301).

C Automatic closing of each fueling valve at both full tank, and C lower quantities, is automatically controlled by pre-setting of C the fuel shutoff point control incorporated in each C fueling/defueling panel fuel quantity indicator. At the full C tank setting, the fueling valves will also be closed by C float-actuated fuel level control switch assemblies, one of C which is provided for each fueling valve.

C Opening of the pressure fueling valves requires circuit C continuity through the float actuated switches. In event the C tank 2L, 2R, 1A, and 3A primary and secondary switches C incorporated in these units have failed open, the switches can C be overriden by manually actuated bypass switches on the C respective left and right wing interphone jack and fuel nozzle C ground panels.

C On aircraft 032-999, C similar bypass switches for the two tank 1 and 3 fuel level C control switches are supported by brackets attached to the above C panels.

C On aircraft 025-026, 027-031, C bypass switches are not installed for the two tank 1 and 3 fuel C level control units. To facilitate pressure fueling of these C tanks (at maximum flow rates) in event faulty fuel level control C switches prevent opening of one or both fueling valves, the C failed open switches may be bypassed by installing jumper wires C across the switch contacts (Ref. Para. C).

CR At any time, refueling of either tank can be terminated by
CR placing the fueling/defueling panel fueling valve switch to the
CR CLOSED position.

CR With the manifold isolation valve closed, and two pressure
CR fueling hoses connected at each fueling station, the aircraft
CR can be refueled (with 50 psig at the fueling nozzle adapters) at
CR a minimum flow rate of 1500 U.S. gallons (1250 Imperial gallons)
CR per minute.

CR The aircraft refueling system requires both ac and dc power,
CR from the APU, or an external power source. In the event
CR external power is not available, pressure fueling may be
CR performed using aircraft battery power. The fuel quantity
CR indication and automatic fuel cutoff functions incorporated in
CR the fuel quantity indicators, however, will be inoperative as ac
CR power is required for fuel gage operation. Under such
CR conditions, the underwing fuel level sight gages must be used to
CR determine the amount of fuel in the tanks (Ref. 12-11-03).

CR Pressure fueling is also permissable with the No. 2 engine
CR running to provide electrical power. All safety precautions
CR relative to fueling operations and the grounding of the aircraft
CR and fueling equipment must be strictly complied with.
CR Interphone communications between flight station,
CR fueling/defueling panel, and fueling equipment operator must be
CR maintained at all times.

CR CAUTION: DO NOT USE OVER-WING GRAVITY FUELING WITH THE APU OR
CR NO. 2 ENGINE OPERATING.

CR NO. 1 and NO. 3 ENGINES MUST NOT BE OPERATED WHILE
CR FUELING IS IN PROGRESS.

CR Fuel loading distribution data based on 6.7 pounds per U.S.
CR gallon, is contained in Figure 306.

CR 2. Referenced Procedure

CR	12-11-01	Fuel Quantity Measurement Fueling/Defueling - Servicing
CR	12-11-21	Gravity Fueling - Servicing
CR	28-21-00	Pressure Fueling System - Fault Isolation
CR	28-24-00	Engine Fuel Feed System - Description and Operation

C 3. Servicing

C WARNING: IN THE EVENT FUEL SPILLS FROM THE VENT OPENINGS DURING
C PRESSURE-FUELING, FAULT ISOLATION PROCEDURE (FUELING
C VALVE FAILS TO CLOSE, REF. 28-21-00) MUST BE PERFORMED
C BEFORE THE AIRCRAFT IS RELEASED FOR SERVICE.

C NOTE: Tanks 2L and 2R contain two separate sections connected
C by low and high level fuel transfer manifolds and an
C outboard to inboard section float actuated fuel transfer
C valve. When the outboard section is refueled, fuel will
C also flow through the low level fuel transfer manifold
C and transfer valve into the surge box located in the
C inboard section until the surge box fuel level rises high
C enough to close the float actuated transfer valve. The
C outboard section will continue to fill. When the
C outboard section approaches the full tank level, fuel
C will then flow through the high level fuel transfer
C manifold until the inboard section is filled. Fuel is
C simultaneously directed into tanks 1 and 3 if the fueling
C valves for these tanks have been opened.

CR On aircraft 025-026 and 028-999,
C fuel is normally loaded in wing center section tanks 1A
C and 3A only when the total fuel required in the tank 1/1A
C and 3/3A combinations exceeds tank 1 and 3 capacity.
C During the refueling process, the total amount of fuel
C required, for example, in tank 1 and 1A is preselected on
C the fueling/defueling panel fuel quantity indicator.
C With tank 1 and 1A fueling valves selected open, fuel
C will simultaneously enter both tanks. The automatic fuel
C shutoff control incorporated in the fueling/defueling
C panel indicator, however, will admit to tank 1A only that
C amount of fuel that exceeds tank 1 capacity.

C When the aircraft is parked for prolonged periods with
C boost pumps off, fuel may migrate from the outboard
C section to the inboard section of tanks 2L and 2R
C (usually due to seepage through the surge box flapper
C valves). This fuel is normally transferred back to the
C outboard section by the jet pump fuel scavenging system
C when the appropriate tank 2L or 2R boost pumps are turned
C on (Ref. 28-24-00).

C Abnormally high rates of fuel migration should be
C investigated and corrected.

C A. Preliminary Procedures

C NOTE: At certain overseas locations the anti-static
C procedures may differ from the standard prescribed by
C TWA. At such locations local procedures may be used

C provided they are approved by the Regional Director
C of Maintenance.

CR (1) Attach fueling truck bonding cable.

C (a) Ground cable to an approved ground.

C (b) Ground lug on the MLG Truck positioner cylinder.

CR NOTE: An alternate aircraft bonding lug is
C located forward of MLG at FS Sta. 1155 &
C BL 42.5 (Ref. Figure 303).

C (2) Gain access to the fueling/defueling panel and fueling
C hose adapters by opening the fueling/defueling station
C access door located in the right wing leading edge,
C just outboard of No. 3 engine, zone 621. Two fueling
C hose adapters are also located at a corresponding
C location in the left wing leading edge just outboard of
C the No. 1 engine (Ref. 301).

C (3) Ensure that all toggle switches on the
C defueling/refueling panel are in the CLOSED or normally
C OFF position (Ref. Fig. 302).

C WARNING: DO NOT SWITCH POWER SOURCES WHILE FUELING
C AIRCRAFT.

CR (4) Apply external electrical power (Ref. 24-00-00).

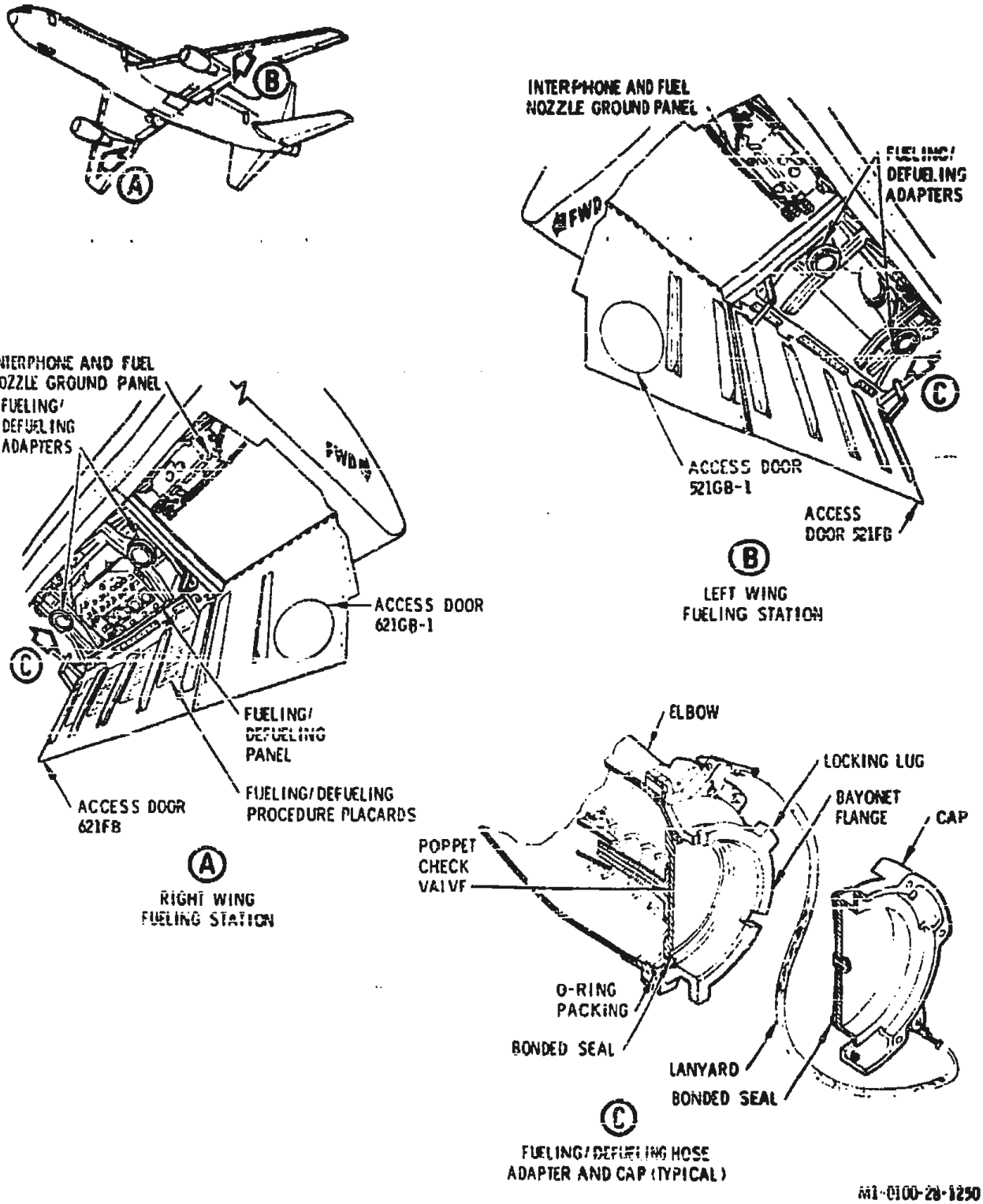
C (5) Remove fueling hose adapter covers and attach fuel hose
C nozzles to the adapters.

C (6) Place SYSTEM POWER switch in ON position. Verify that
C all VALVE CLOSED indicator lights come on to indicate
C that the primary and/or the secondary poppets of the
C fuel pressure-operated, solenoid-controlled fueling
C valves are closed. If an indicator light does not come
C on, check the indicator light lamp (Ref. Step 7).

C (7) With LIGHTS switch in TEST position, verify that all
C panel lights not already on, come on.

C (8) On aircraft 001-024 and 027,
C using indicator SET knobs, adjust each indicator fuel
C shutoff index to a position below the pointer. Verify
C that SET POINT TEST lights are on.

C (8) On aircraft 025-026 and 028-999,
C using indicator SET knobs, adjust tank 2L and 2R fuel
C shutoff indexes at a position higher than the pointer.
C Adjust tank 1A and 3A indicator indexes higher than the



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CR
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Fueling/Defueling Stations
Figure 301

R EFFECTIVITY: ALL
R
003B

C pointer, but not higher than maximum placarded tank 1
C and 3 only capacity. Verify that 2L, 1, 3, and 2R set
C point lights come on.

C (9) With GAUGES switch in TEST position, verify that each
C indicator pointer moves full upscale and that each SET
C POINT TEST light goes out as the pointer moves upscale
C past the fuel shutoff index. Release the GAUGES
C switch. Verify that each indicator pointer returns to
C its previous position and that the SET POINT TEST light
C comes back on as the pointer moves downscale past the
C fuel shutoff index.

C (10) On aircraft 025-026 and 028-999,
C reset tank 1A and 3A fuel shutoff indexes to a
C higher than 53,800 pounds (24,400 kg). Verify that 1A
C and 3A SET POINT lights come on.

C (11) Repeat Step (9). Verify 1A and 3A SET POINT lights go
C out when pointer is driven upscale past the index.

C (12) Using fuel quantity indicator SET knobs, position fuel
C shutoff indexes to the desired fuel quantity for each
C tank. The quantity of fuel that will be admitted to
C tanks 1A and 3A will normally be the amount that the
C set point index is set above maximum tank 1 or 3
C capacity. Verify that tank 2L, 1A, 3A and 2R SET POINT
C TEST lights come on.

C (13) If the aircraft is being refueled with hoses attached
C to the adapters at only one of the two fueling
C stations, place the cross-ship manifold ISOLATION VALVE
C switch in the OPEN position. Verify that amber
C ISOLATION VALVE light comes on momentarily, and then
C goes out, as the valve opens.

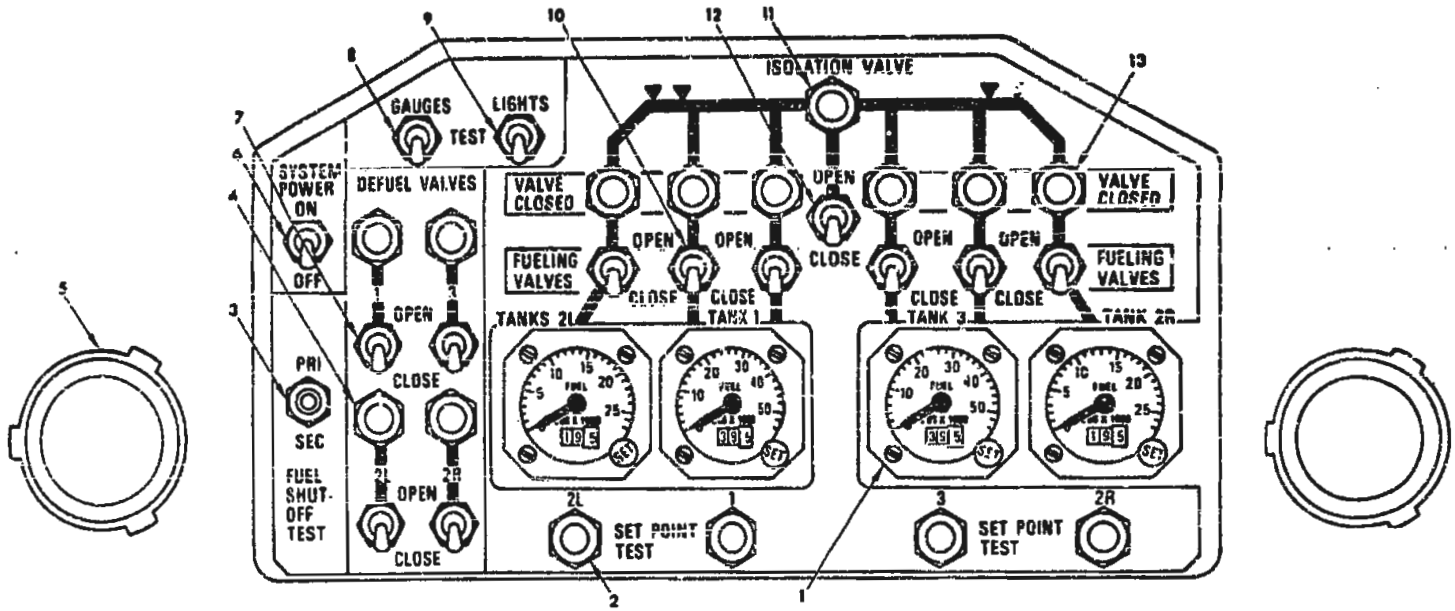
C B. Fueling Procedure

C CAUTION: REFUELING SOURCE PRESSURE MUST NOT EXCEED 50 PSIG.

C (1) Open fuel hose nozzle poppets and pressurize
C refueling/defueling manifold with fuel from refueling
C source equipment.

C (2) Place FUELING VALVES switches for tanks being refueled
C in OPEN position. Verify that VALVE CLOSED indicator
C light just above respective switch goes out.

C NOTE: A VALVE CLOSED light going out indicates that
C the fueling valve has opened. Verify fuel flow
C into tank by observing rise in fuel quantity
C indicator pointer.



1 FUEL QUANTITY INDICATOR (4 PLACES)

- PROVIDES DIGITAL AND ANALOG INDICATION OF FUEL QUANTITY
- INCORPORATES SET POINT INDEX TO PERMIT SELECTION OF DESIRED FUEL QUANTITY. REFUELING IS AUTOMATICALLY TERMINATED WHEN INDICATOR POINTER REACHES INDEX SETTING. TERMINATION OF FUEL FLOW INTO TANK IS INDICATED WHEN CORRESPONDING SET POINT TEST LIGHT GOES OUT AND VALVE CLOSED LIGHT(S) COMES ON

2 SET POINT TEST LIGHT (4 PLACES)

- PROVIDES INDICATION OF AUTOMATIC SHUTOFF OF REFUELING FLOW. LIGHT GOES OUT WHEN INDICATOR POINTER PASSES SET POINT INDEX

3 FUEL SHUTOFF TEST SWITCH

- SWITCH IS DOUBLE-POLE DOUBLE-THROW MOMENTARY CONTACT TYPE WITH CENTER OFF POSITION
- PRIMARY AND SECONDARY POSITIONS SIMULATE FULL TANK CONDITION TO TEST AUTOMATIC FUEL SHUTOFF OPERATION. THE TEST VERIFIES OPERATION OF THE PRIMARY AND SECONDARY PILOT VALVES IN THE FUELING VALVES AND PRIMARY AND SECONDARY SWITCHES IN THE CORRESPONDING FUEL LEVEL CONTROL SWITCHES
- PROPER TEST RESULT IS INDICATED BY ALL VALVE CLOSED LIGHTS COMING ON

4 DEFUEL VALVES LIGHT (4 PLACES)

- LIGHT NORMALLY BLINKS ON, THEN OFF, WHEN VALVE IS IN-TRANSIT TO OPEN OR CLOSED POSITION. IF ON STEADY, VALVE IS NOT IN AGREEMENT WITH SWITCH POSITION

5 REFUEL/DEFUELING NOZZLE ADAPTER (2 PLACES)

- INCORPORATES PROVISIONS FOR ATTACHING STANDARD FUEL NOSE NOZZLES. TWO ADAPTERS ALSO LOCATED IN LEFT WING
- NOZZLE ATTACHMENT FLANGE IS DESIGNED TO BREAKAWAY IF PRE-DETERMINED CRITICAL FORCE IS APPLIED TO ADAPTERS THROUGH FUELING HOSES
- BROKEN NOZZLE ATTACHMENT FLANGES CAN BE REPLACED WITHOUT DISASSEMBLY. INTERNAL SPRING LOADED POPPET CLOSES ADAPTER PORT
- TWO REFUEL/DEFUELING NOZZLE ADAPTERS ARE ALSO LOCATED IN LEFT WING LEADING EDGE, ZONE 621 FR

6 SYSTEM POWER SWITCH

- CONTROLS APPLICATION OF ELECTRICAL POWER TO REFUEL/DEFUELING SYSTEM
- WHEN THE SWITCH IS ELECTRICALLY LATCHED IN ON POSITION, SERVICE PANEL LIGHTS COME ON, FUEL QUANTITY INDICATORS ARE POWERED, FUEL SHUTOFF TEST CIRCUIT IS ARMED, VALVE CLOSED INDICATOR LIGHTS COME ON, AND REFUEL POWER SWITCHLIGHT ON FLIGHT ENGINEER/SECOND OFFICERS FUEL SYSTEM PANEL COMES ON
- IF INADVERTENTLY LEFT ON, SYSTEM POWER SWITCH CAN BE UNLATCHED TO OFF POSITION BY DEPRESSING REFUEL POWER SWITCHLIGHT

7 DEFUEL VALVES SWITCH (4 PLACES)

- OPENS OR CLOSES DEFUELING VALVES

8 GAUGES TEST SWITCH

- WHEN HELD IN POSITION, SWITCH CHECKS OPERATION OF FUEL QUANTITY INDICATORS
- ALL FUEL QUANTITY INDICATORS DRIVE FULL UPSCALE
- CORRESPONDING SET POINT LIGHTS GO OUT
- ANY FUELING VALVE THAT IS OPEN WILL CLOSE
- SWITCH OPERATES IN PARALLEL WITH QTY TEST SWITCH ON FLIGHT ENGINEER/SECOND OFFICERS FUEL SYSTEM PANEL

9 INDICATOR LIGHTS TEST SWITCH

- TEST ON PANEL INDICATOR LIGHTS. ANY LIGHT NOT ALREADY ON WILL COME ON WHEN SWITCH IS HELD IN TEST POSITION

10 FUELING VALVE CONTROL SWITCH (6 PLACES)

- ARMS FUELING VALVE CIRCUIT FOR OPEN OPERATION
- FUEL PRESSURE IS REQUIRED TO OPEN FUELING VALVE

11 ISOLATION VALVE LIGHT

- LIGHT NORMALLY BLINKS ON, THEN OFF, WHEN VALVE IS IN-TRANSIT TO OPEN OR CLOSED POSITION. IF ON STEADY, VALVE IS NOT IN AGREEMENT WITH SWITCH POSITION

12 ISOLATION VALVE SWITCH

- OPENS REFUEL/DEFUELING MANIFOLD ISOLATION VALVE TO PERMIT REFUEL/DEFUELING OF ALL TANKS THROUGH ADAPTERS IN ONE WING ONLY
- PERMITS CROSS-SHIP TRANSFER OF FUEL BY MAINTENANCE PERSONNEL

13 FUELING VALVE POSITION LIGHT (6 PLACES)

- LIGHT IS ON WHEN CORRESPONDING FUELING VALVE IS CLOSED

M1-0005-25-160

CR
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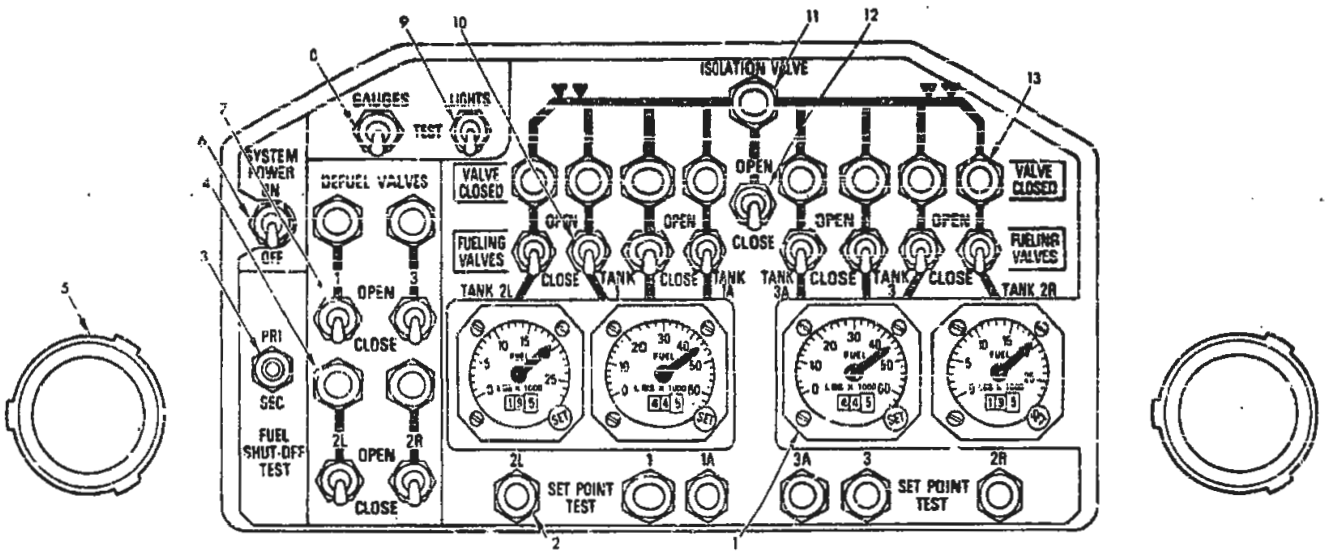
Fueling/Defueling Panel
Figure 302 (Sheet 1)

R
R
003B

EFFECTIVITY: 001-024, 027



1 FUEL QUANTITY INDICATOR (4 PLACES)

- PROVIDES DIGITAL AND ANALOG INDICATION OF FUEL QUANTITY (REF. 28-41-00).
- INCORPORATES SET POINT INDEX TO PERMIT SELECTION OF DESIRED FUEL QUANTITY. REFUELING IS AUTOMATICALLY TERMINATED WHEN INDICATOR POINTER REACHES INDEX SETTING. TERMINATION OF FUEL FLOW INTO TANK IS INDICATED WHEN CORRESPONDING SET POINT TEST LIGHT GOES OFF AND VALVE CLOSED LIGHT COMES ON (REF. 28-21-00)

2 SET POINT TEST LIGHT (6 PLACES) (REF. 28-21-00)

- PROVIDES INDICATION OF AUTOMATIC SHUTOFF OF FUELING FLOW. LIGHT GOES OFF WHEN INDICATOR POINTER PASSES SET POINT INDEX (REF. 28-21-00)

3 FUEL SHUTOFF TEST SWITCH (REF. 28-21-00)

- SWITCH IS DOUBLE-POLE DOUBLE-THROW MOMENTARY CONTACT TYPE WITH CENTER OFF POSITION
- PRIMARY AND SECONDARY POSITIONS SIMULATE FUEL TANK CONDITION TO TEST AUTOMATIC FUEL SHUTOFF OPERATION. THE TEST VERIFIES OPERATION OF THE PRIMARY AND SECONDARY PILOT VALVES IN THE FUELING VALVES AND PRIMARY AND SECONDARY SWITCHES IN THE CORRESPONDING FUEL LEVEL CONTROL SWITCHES
- PROPER TEST RESULT IS INDICATED BY ALL VALVE CLOSED LIGHTS COMING ON

4 DEFUEL VALVES LIGHT (4 PLACES) (REF. 28-22-00)

- LIGHT NORMALLY BLINKS ON, THEN OFF WHEN VALVE IS IN-TRANSIT TO OPEN OR CLOSED POSITION. IF ON STEADY, VALVE IS NOT IN AGREEMENT WITH SWITCH POSITION

5 FUELING/DEFUELING NOZZLE ADAPTER (2 PLACES) (REF. 28-21-00)

- INCORPORATES PROVISIONS FOR ATTACHING STANDARD FUEL HOSE NOZZLES
- NOZZLE ATTACHMENT FLANGE IS DESIGNED TO BREAKAWAY IF PRE-DETERMINED CRITICAL FORCE IS APPLIED TO ADAPTERS THROUGH FUELING HOSES
- BROKEN NOZZLE ATTACHMENT FLANGES CAN BE REPLACED WITHOUT DISASSEMBLY. INTERNAL SPRING LOADED POPPET CLOSES ADAPTER PORT
- TWO FUELING/DEFUELING NOZZLE ADAPTERS ARE ALSO LOCATED IN LEFT WING LEADING EDGE, ZONE 521 +B

6 SYSTEM POWER SWITCH (REF. 28-21-00)

- CONTROLS APPLICATION OF ELECTRICAL POWER TO FUELING/DEFUELING SYSTEM
- WHEN THE SWITCH IS ELECTRICALLY LATCHED IN ON POSITION, SERIVCE PANEL LIGHTS COME ON, FUEL QUANTITY INDICATORS ARE POWERED, FUEL SHUTOFF TEST CIRCUIT IS ARMED, VALVE CLOSED INDICATOR LIGHTS COME ON, AND REFUEL POWER SWITCHLIGHT ON FLIGHT ENGINEER/SECOND OFFICERS FUEL SYSTEM PANEL COMES ON
- IF INADVERTENTLY LEFT ON, SYSTEM POWER SWITCH CAN BE UNLATCHED TO OFF POSITION BY DEPRESSING REFUEL POWER SWITCHLIGHT

7 DEFUEL VALVES SWITCH (4 PLACES) (REF. 28-22-00)

- OPENS OR CLOSES DEFUELING VALVES

8 GAUGES TEST SWITCH (REF. 28-41-00)

- WHEN HELD IN POSITION, SWITCH CHECKS OPERATION OF FUEL QUANTITY INDICATORS
- ALL FUEL QUANTITY INDICATORS DRIVE FULL UPSCALE
- CORRESPONDING SET POINT LIGHTS GO OUT
- ANY FUELING VALVE THAT IS OPEN WILL CLOSE
- SWITCH OPERATES IN PARALLEL WITH QUANTITY TEST SWITCH ON FLIGHT ENGINEER/SECOND OFFICERS FUEL SYSTEM PANEL

9 INDICATOR LIGHTS TEST SWITCH (REF. 28-21-00)

- TESTS PANEL INDICATOR LIGHTS. ANY LIGHT NOT ALREADY ON WILL COME ON WHEN SWITCH IS HELD IN TEST POSITION

10 FUELING VALVE CONTROL SWITCH (8 PLACES) (REF. 28-21-00)

- ARMS FUELING VALVE CIRCUIT FOR OPEN OPERATION
- FUEL PRESSURE IS REQUIRED TO OPEN FUELING VALVE

11 ISOLATION VALVE LIGHT (REF. 28-21-00)

- LIGHT NORMALLY BLINKS ON, THEN OFF, WHEN VALVE IS IN-TRANSIT TO OPEN OR CLOSED POSITION. IF ON STEADY, VALVE IS NOT IN AGREEMENT WITH SWITCH POSITION

12 ISOLATION VALVE SWITCH (REF. 28-21-00)

- OPENS FUELING/DEFUELING MANIFOLD ISOLATION VALVE TO PERMIT FUELING/DEFUELING OF ALL TANKS THROUGH ADAPTERS IN ONE WING ONLY
- PERMITS CROSS-SHIP TRANSFER OF FUEL BY MAINTENANCE PERSONNEL

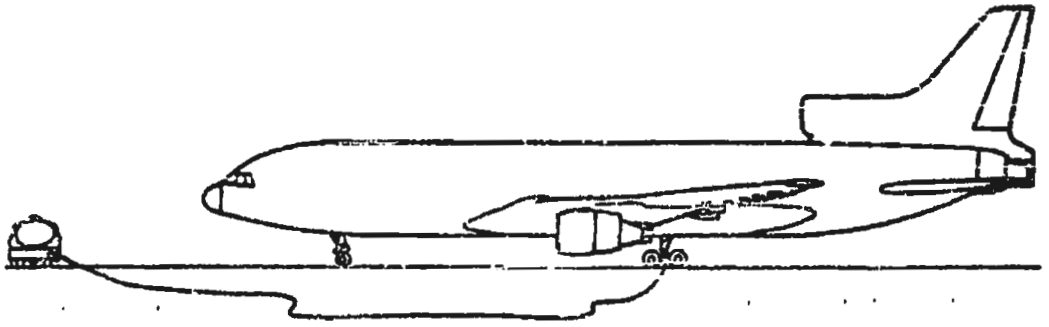
13 FUELING VALVE POSITION LIGHT (8 PLACES) (REF. 28-21-00)

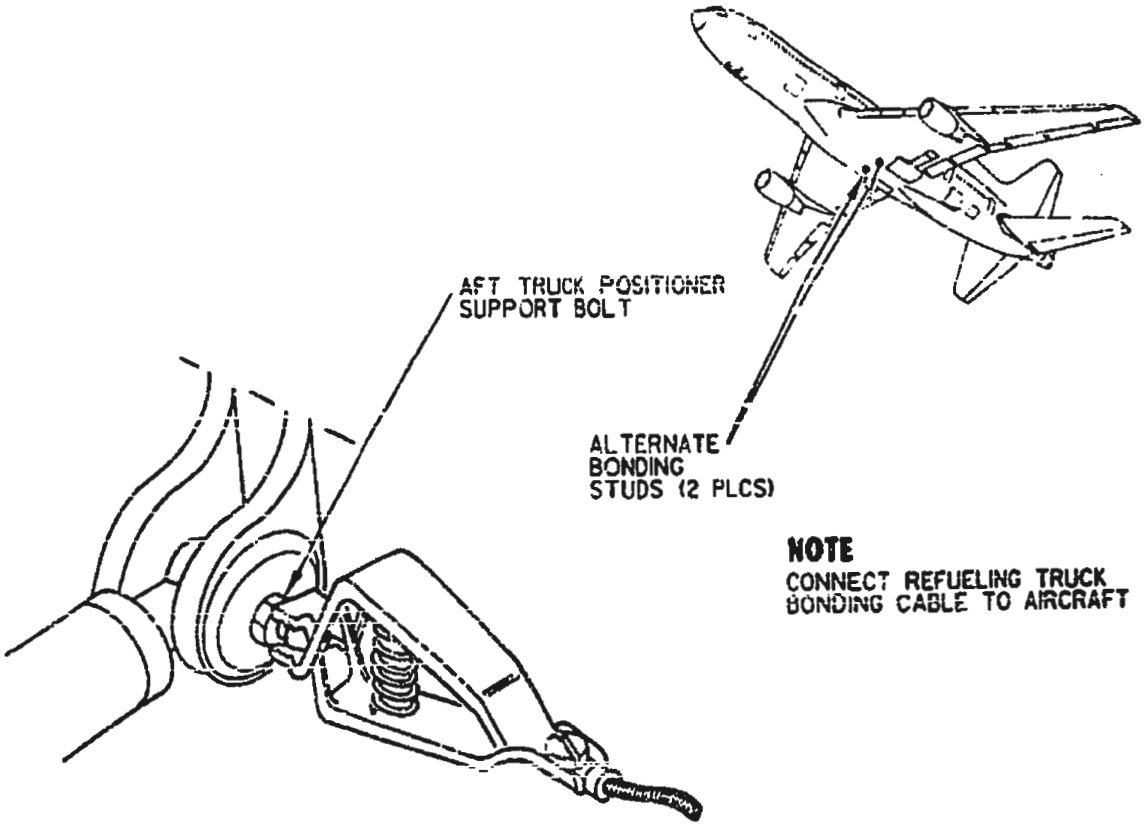
- LIGHT IS ON WHEN CORRESPONDING FUELING VALVE IS CLOSED

M1-25001-28-10

C C Fueling/Defueling Panel
Figure 302 (Sheet 2)

R R 0038 EFFECTIVITY: 025-026, 028-999





NOTE
CONNECT REFUELING TRUCK
BONDING CABLE TO AIRCRAFT

M1-0001-12-406

CR
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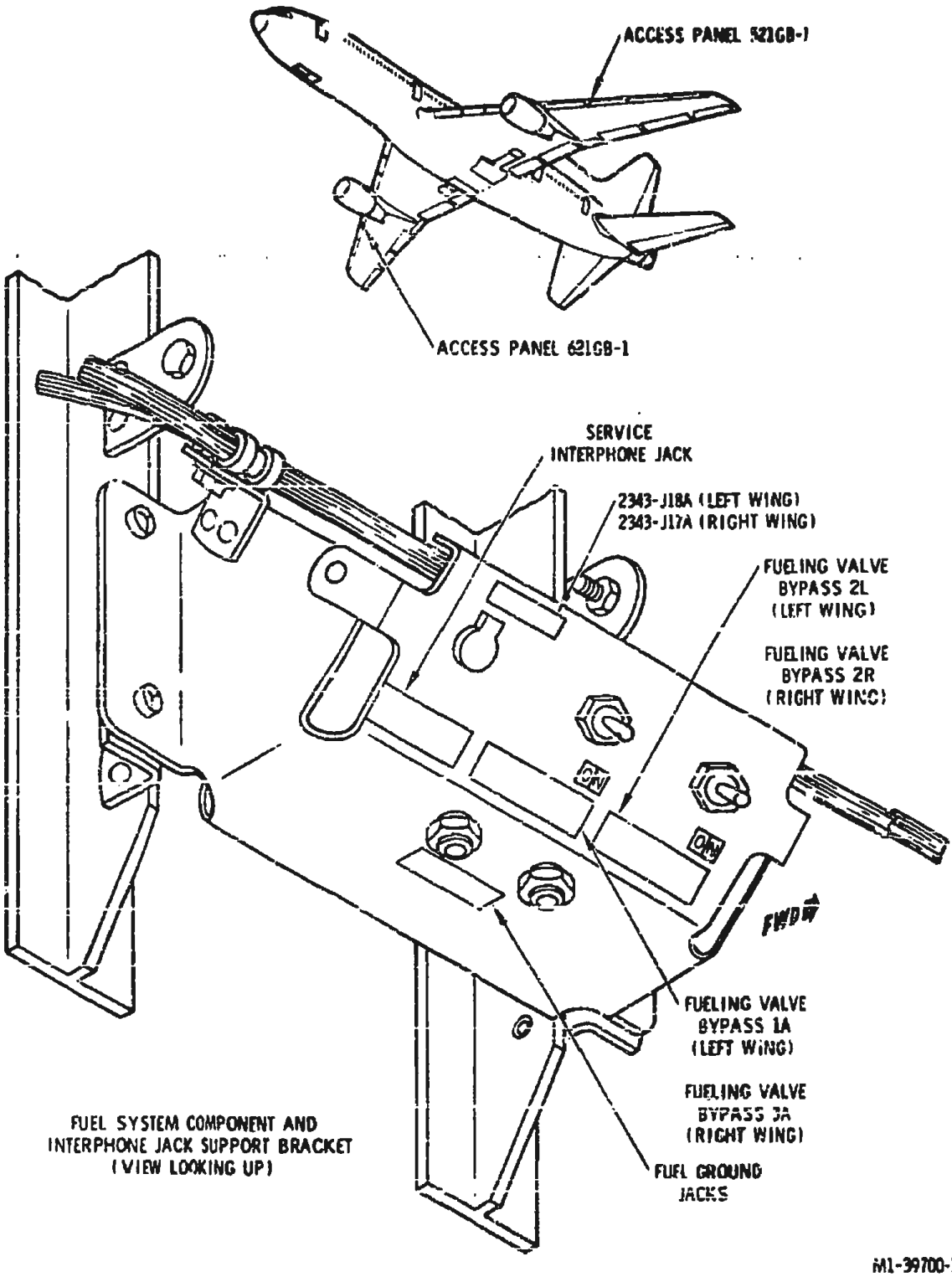
Fueling Equipment Grounding
Figure 303

EFFECTIVITY: ALL

003B

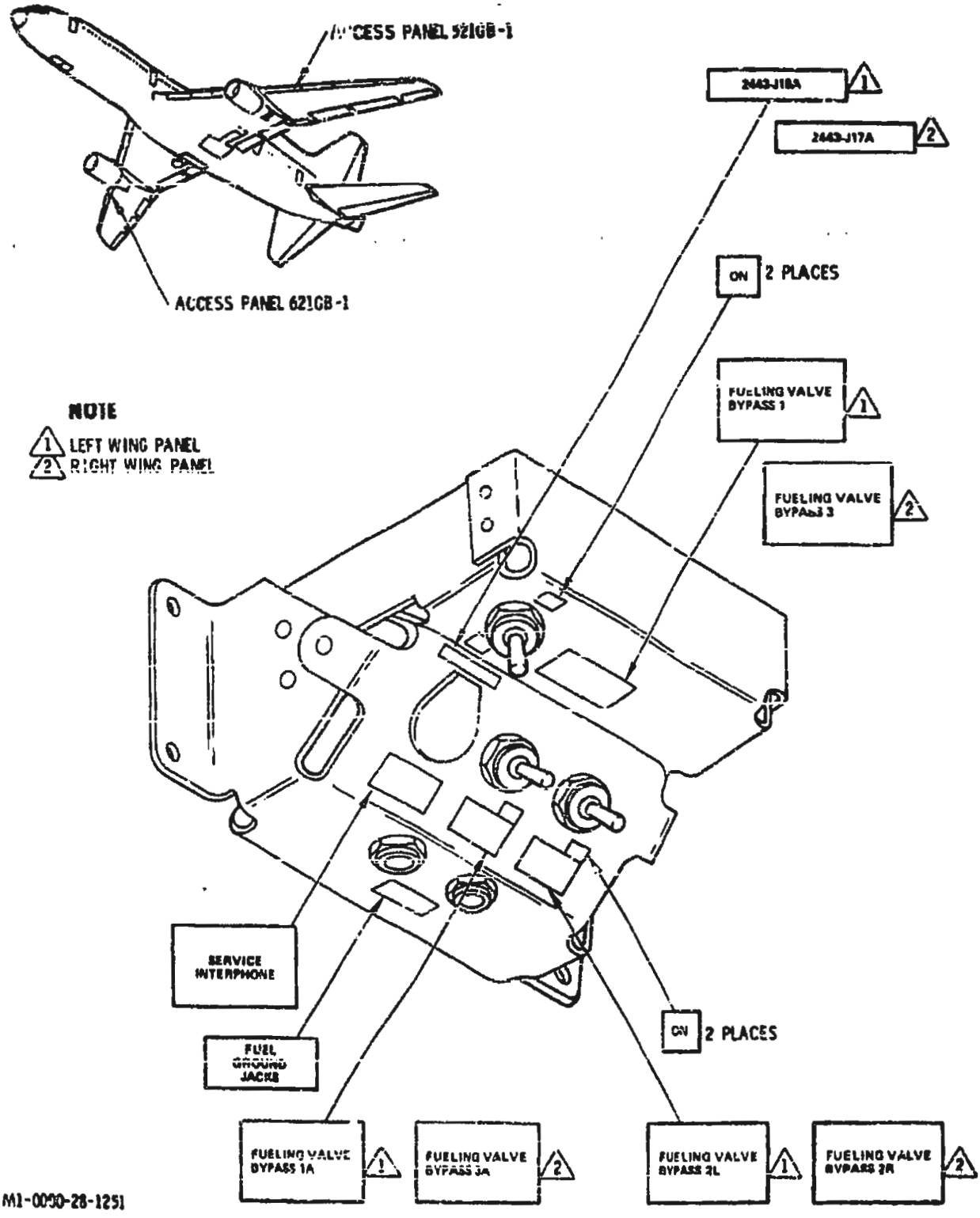

ACCESS PANEL 521GB-1
ACCESS PANEL 621GB-1
SERVICE INTERPHONE JACK
2343-J18A (LEFT WING)
2343-J17A (RIGHT WING)
FUELING VALVE BYPASS 2L (LEFT WING)
FUELING VALVE BYPASS 2R (RIGHT WING)
ON
ON
FWD
FUELING VALVE BYPASS 1A (LEFT WING)
FUELING VALVE BYPASS 3A (RIGHT WING)
FUEL GROUND JACKS
FUEL SYSTEM COMPONENT AND INTERPHONE JACK SUPPORT BRACKET (VIEW LOOKING UP)

M1-39700-12-383

CR
CR

Interphone and Fuel Nozzle Ground Panel
Figure 304

R EFFECTIVITY: 025-026, 028-031
R
0038



CR
CR

Interphone and Fuel Nozzle Ground Panel
Figure 304

R
R
003B

EFFECTIVITY: 032-999

C Each of the panel indicator fuel shutoff SET
C POINT circuits is protected by a common FUELING
C VALVE circuit breaker located on the galley
C right circuit breaker panel. The circuit
C breaker will trip and cause all set point lights
C to out if an overload in either circuit exceeds
C the circuit breaker rating. If this occurs,
C when a tank 1 or 3 fueling valve is opened,
C return that fueling valve switch to the CLOSED
C position. Reset the circuit breaker and
C continue fueling with the other tank 1 or tank 3
C fueling valve in the open position. If the
C malfunction occurs when a tank 2L or 2R fueling
C valve is selected open, that tank must be
C gravity fueled (Ref. 12-11-21). If the
C malfunction occurs when opening a tank 1A or 3A
C fueling valve, then the fault must be located
C and corrected before that tank can be refueled.
C If the aircraft is to be dispatched with this
C condition refer to maintenance manual 28-21-05
C deactivation procedure.

C On aircraft 025-026 and 028-031,
C tank 1A, 3A, 2L and 2R fuel level control switch
C bypass switches are installed on the interphone
C and fuel nozzle ground jack panel in each wing,
C adjacent to the fueling panel (Ref. Fig. 304).

C On aircraft 032-999,
C Tank 1 and 3 bypass switches are installed in
C the same locations.

C These switches, when held depressed, open the
C respective tank fueling valves, and permit
C pressure fueling of these tanks in event a
C malfunctioning switch in the fuel level control
C prevents the valves from opening. Fueling flow
C will normally be terminated, when the fuel
C indicator pointers have rotated upscale to the
C set point index setting.

C On aircraft 001-024 and 027,
C tank 1 or tank 3, the(float) switches may be
C bypassed to open the fueling valve by
C temporarily installing jumper wires across the
C control switch contacts as shown in Figure 305
C (Ref. Para. C).

C CAUTION: BE CERTAIN JUMPER WIRES ARE REMOVED WHEN REFUELING
C IS COMPLETED.

(3) Observe fuel quantity indicators. When fuel flow to each tank is stabilized, do a PRI and SEC (full tank) fuel shutoff pre-check, as follows:

NOTE: If the available refueler source pressure is lower than normal, do the above check individually for each fueling valve, with the remaining fueling valves closed.

With 50 psig refueling pressure applied, elapsed time to complete the primary and secondary fuel shutoff tests (VALVE CLOSED lights on) could be as long as 45 seconds depending on the number of hoses used and whether refueling is being done using adapters at one or both refueling stations. This time can be considerably longer if refueling pressure is lower than 50 psig. All fueling valves will not close at the same time.

(a) Hold FUEL SHUTOFF TEST switch in PRI position and verify that in approximately 20 seconds, the VALVE CLOSED indicator lights come on. Observe fuel quantity indicators to verify that fuel stops flowing into the tanks. (This test verifies that each float actuated fuel level control switch has correctly responded to a simulated full tank condition and has closed the primary fuel shutoff poppet in its associated fueling valve.)

(b) When all fueling valves have closed, place shutoff test switch to OFF position. Verify that VALVE CLOSED lights go out and that fuel flow into each tank is restored.

(c) Repeat Steps (a) and (b) with the FUEL SHUTOFF test switch in the SEC position to check operation of fueling valve secondary fuel shutoff poppets.

CAUTION: IF A FUELING VALVE DOES NOT CLOSE DURING A FUEL SHUT-OFF PRE-CHECK, VERIFY THAT FUELING VALVE SWITCH WILL CLOSE THE VALVE. IF IT DOES, OPEN THE VALVE AND CONTINUE TO REFUEL THE TANK. MONITOR FUEL INDICATOR CLOSELY TO AVOID OVERFILLING TANK.

IF VALVE DOES NOT AUTOMATICALLY CLOSE AT THE INDICATOR SET POINT INDEX, CLOSE FUELING VALVE USING FUELING VALVE SWITCH.

IF AIRCRAFT IS TO BE DISPATCHED WITH THIS CONDITION, REFER TO 28-21-07 DEACTIVATION PROCEDURE.

C (4) Monitor fuel quantity indicators. Be prepared to close
C fueling valve if fuel flow does not terminate at
C quantity indicated by fuel shutoff index (SET POINT
C TEST light out; VALVE CLOSED light on).

C CAUTION: WHEN REFUELING WITH A FUEL LEVEL CONTROL SWITCH
C BYPASSED, DO NOT RELY ON THE FUEL INDICATOR
C AUTOMATIC FUEL SHUTOFF TO CLOSE THE TANK FUELING
C VALVE WITHOUT FIRST CONFIRMING INDICATOR ACCURACY
C (COMPARE WITH FUEL LEVEL SIGHT GAGE). THIS IS IN
C ADDITION TO THE GAUGES TEST SWITCH OF INDICATOR
C AND SET POINT LIGHT OPERATION. BE PREPARED TO
C CLOSE THE FUELING VALVE USING THE REFUEL PANEL
C SWITCH AT DESIRED FUEL QUANTITY.

C NOTE: On aircraft 025-026 and 028-999,
C tank 1A and 3A is being refueled, 1A/3A SET
C POINT lights will go out and 1A/3A VALVE CLOSED
C lights will come on when tank 1A/3A has received
C the amount of fuel that exceeds tank 1 or 3
C capacity. Fuel will continue to flow into tanks
C 1 and 3. To restore tank 1 and 3 set point fuel
C shutoff light indications, reset tank 1 and 3
C indicator fuel shutoff indexes to indicate
C maximum tank 1 and 3 capacity, or as indicated
C on fuel loading schedule.

C In the event a malfunctioning (high reading)
C fuel quantity indicator terminates refueling at
C a lower than desired fuel level (confirmed by
C sight gage), refueling of the affected tank may
C be done by opening circuit breaker FUEL SYS GA
C RPTR IND on galley right circuit breaker panel
C zone 130. Use fuel level sight gages to refuel
C tank with defective indicator. Reset the
C circuit breaker and complete refueling of
C remaining tanks after the tank having defective
C gage is filled. This procedure will not affect
C the full tank shutoff feature.

C Refueling may be terminated at any time by:

C (a) Placing FUELING VALVES switches in CLOSE position.
C These switches can be operated singly to terminate
C fueling to an individual tank, or collectively to
C terminate fueling to all tanks.

C (b) Placing SYSTEM POWER switch in OFF position. This
C will close all fueling valves.

C (c) Terminating fuel flow from the refueling source
C and closing the fuel hose nozzle/adapter poppets.

C (5) When all tanks have been fueled to the desired
C quantity, place SYSTEM POWER switch in OFF position.

C NOTE: An illuminated REFUEL POWER switch ON legend at
C the FE/SO FUEL SYSTEM panel is an advisory light
C intended to alert the flight crew that the
C electrically latched SYSTEM POWER switch on the
C fueling/defueling panel is in the ON position.
C Momentarily depressing the REFUEL POWER switch
C will release the SYSTEM POWER switch and cause
C the ON light to go out.

C (6) Turn off refueling source pumps and close the fueling
CR hose nozzle poppets. Remove the nozzles.

C (7) Install fueling hose adapter covers and close fueling
C station and interphone and fuel nozzle ground panel
C access doors.

CR (8) Disconnect fueling source bonding wires.

C C. Fueling Procedure (Aircraft 001-036) with Faulty Tank Fuel
C Level Control Switch

C CAUTION: WHEN USING THIS PROCEDURE, THE OVERFILL PROTECTION
C IS BYPASSED; THEREFORE, TAKE EXTREME CARE WHEN
C FILLING THE RESPECTIVE FUEL TANK TO CAPACITY.

C IT SHOULD BE NOTED THAT AS LONG AS THE JUMPER
C ASSEMBLY IS INSTALLED ON THE VALVE, THE VALVE WILL
C REMAIN OPEN. TO TERMINATE FUELING FOR THE
C AFFECTED TANK, YOU MUST REMOVE THE JUMPER
C ASSEMBLY. MAJOR FUEL SPILL CAN RESULT IF JUMPER
C IS LEFT ON AFTER REQUIRED FUEL LEVEL IS REACHED.

C NOTE: An L-1011 Fueling Valve/Float Switch Test Unit, LAX
C tool number 28-013 and an emergency light power
C supply, TWA Stk. Nbr. 271-0033, (or equivalent) may
C be substituted for jumper assembly, P/N 28-20-00-0014
C (TWA Stk. Nbr 48-3192) as follows:

C 1. Connect the 28 VDC power supply to the external
C power sockets on tool number 28-013 test unit; assure
C polarity is correct when making connections.

C 2. Connect the test unit plug to the respective
C fueling valve.

C 3. The fueling valve may then be opened by placing
C both "Normal/Test" switches to the "Test" position.

C NOTE: Assure entire jumper assembly is removed and wing
C access panel(s) reinstalled prior to flight.

C (1) Install applicable jumper assembly as follows:

C (a) Inoperative 2L and/or 2R tank float switches

C 1) Gain access to 2L and/or 2R fueling valve(s)
C by opening wing panel(s) 521HB and/or 621HB
C respectively (first panel outboard of fueling
C override switch panel).

C 2) Remove the connector from the respective
C fueling valve and install jumper assembly, P/N
C 28-20-00-0014 (TWA Stk. Nbr. 48-3192).

C 3) Connect the jumper to 28 VDC utilizing the 28
C VDC receptacle inside the cockpit closet-forward
C bulkhead approximately 9 inches above the floor
C (or equivalent 28 VDC receptacle).

C (b) Inoperative 1 and/or 3 tank float switches

C 1) Gain access to 1 and/or 3 fueling valves(s)
C by opening wing panel(s) 541EB and/or 641EB
C respectively (first panel outboard of MLG on rear
C spar).

C 2) Remove the connector from the respective
C fueling valve and install jumper assembly, P/N
C 28-20-00-0014 (TWA Stk. Nbr 48-3192).

C 3) Connect the jumper to 28 VDC utilizing the 28
C VDC receptacle inside the cockpit closet-forward
C bulkhead approximately 9 inches above the floor
C (or equivalent 28 VDC receptacle).

C (c) Inoperative 1A and/or 3A tank float switches (-100
C aircraft).

C 1) Gain access to 1A and/or 3A fueling valve(s)
C on the forward end of the MLG wheel well, LH or RH
C respectively.

C 2) Remove the connector from the respective
C fueling valve and install jumper assembly, P/N
C 28-20-00-0014 (TWA Stk. Nbr. 48-3192).

C 3) Connect the jumper to 28 VDC utilizing the 28
C VDC receptacle inside the cockpit closet-forward
C bulkhead approximately 9 inches above the floor
C (or equivalent 28 VDC receptacle).

C (2) Commence fueling while monitoring appropriate fuel
C quantity gage.

C (3) Remove jumper assembly; reinstall connector on fueling
C valve.

C (4) Close wing access panel(s).

C D. Alternate Fueling Procedure (Aircraft 001-036 With Faulty
C Tank 1 or 3 Fuel Level Control Switch.

C CAUTION: WHEN USING THIS PROCEDURE, DO NOT FILL TANK TO
C MAXIMUM CAPACITY.

C (1) On galley right circuit breaker panel, zone 131, open
C FUEL SYSTEM circuit breakers FUELING - VALVE TEST (17H)
C and FUELING - VALVES (18H).

C (2) Gain access to terminal modules 2821-TB9 and 2821-TB10
C (Tank 1) or 2821-TB11 and 2821-TB12 (Tank 3) by opening
C wing access doors 541EB or 641EB.

C (3) Install jumpers between unused terminals in modules 1,
C 2, and 3 of the applicable terminal modules noted
C above(Ref. Fig. 305).

C (4) Close circuit breakers opened in Step 3C(1) and
C commence fueling while monitoring appropriate fuel
C quantity gage to assure that fuel level does not exceed
C the SET POINT index setting.

C (5) Open the circuit breakers closed in the preceding Step
C and remove the terminal module jumpers.

C (6) Close wing access door.

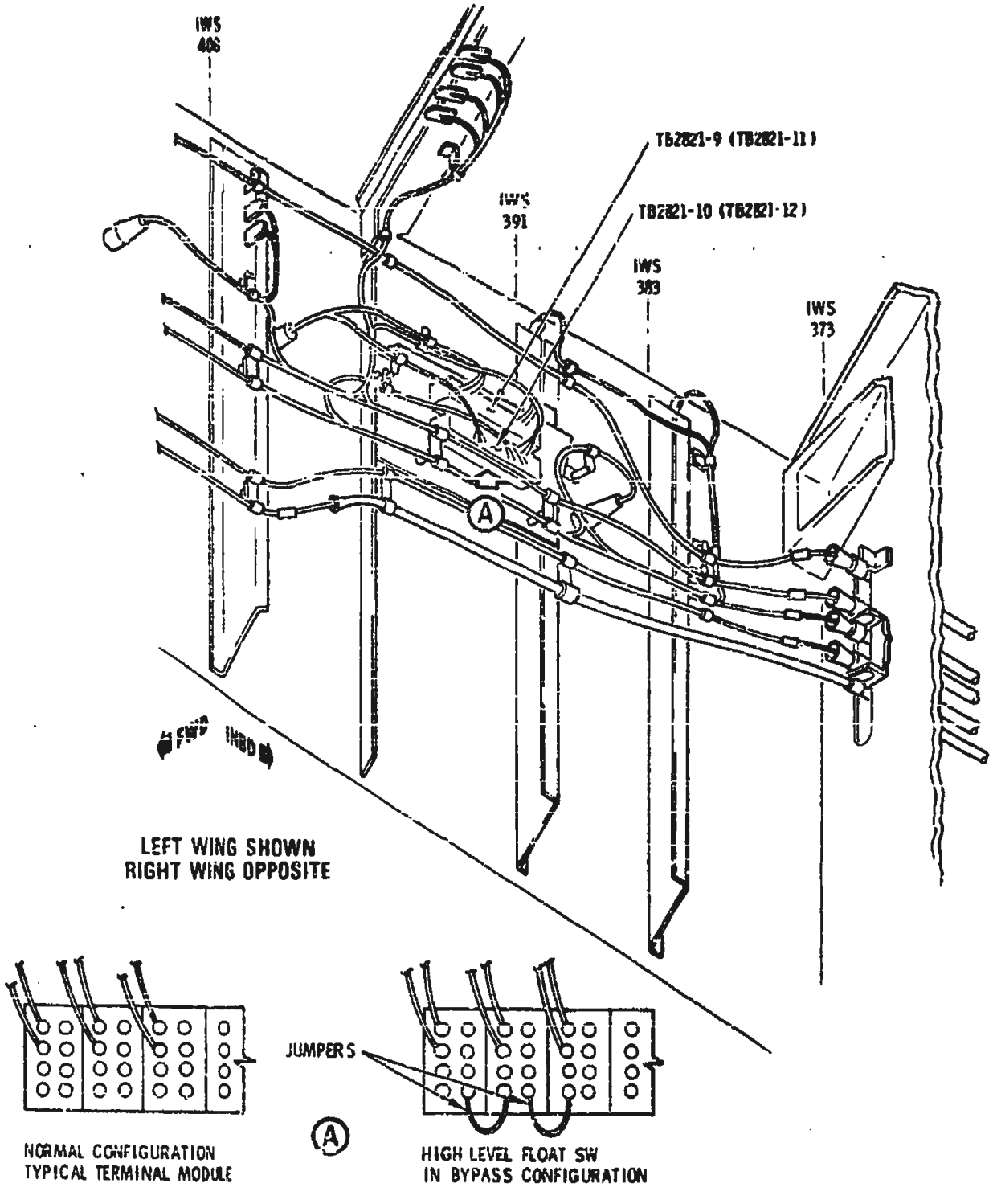
C (7) Remove tags, and close the circuit breakers opened in
C Step 3C(1).

C E. Fueling Procedure (Aircraft 025-026 and 028-999 With Both
C Fueling Valves in Tank 1 or 3 Inoperable)

C NOTE: If both refueling valves in tank 1 or 3 are
C inoperable, the tank may be refueled by transferring
C fuel from its companion tank 1A or 3A.

C (1) On fueling/defueling panel set applicable tank 1A or 3A
C FUELING VALVE switch to OPEN.

C (2) Set tank 1/3 indicator fuel shutoff index clockwise as
C far as it will go.



M1-0100-12-357

C C Tank 1 or 3 Fuel Level Control Switch Bypass
Figure 305

C (3) Start fueling tank 1A/3A.

C CAUTION: IF BOOST PUMP CIRCUIT BREAKER TRIPS, DO NOT RESET
C UNTIL IT IS VERIFIED, BY INSPECTION, THAT THE TRIP
C IS NOT CAUSED BY FAULTY BOOST PLUG-IN-ELEMENT TO
C HOUSING INTERFACE CONNECTOR.

C NOTE: If tank 1/3 contains more than 1000 pounds/454
C kilograms of fuel proceed to Step (5).

C (4) On FE/SO FUEL SYSTEM panel, depress GRAVITY TRANSFER -
C TANK 1A or 3A switches. Verify XFR lights come on and
C blue valve in-transit lights come on, then go out.

C NOTE: Opening the gravity transfer valve will increase
C the rate of fuel transfer into tank 1/3 until
C such time as the fuel level in tank 1 and 3 is
C greater than the level in tank 1A and 3A.

C (5) When sufficient fuel has gravity transferred from the
C center section tanks to increase tank 1/3 fuel quantity
C to 1000 lbs (454 Kg), switch on the tank 1 and 3 fuel
C boost pumps.

C (6) Depress (latch) 1A and 3A XFR switches. Verify that
C XFR lights come on and blue valve-in-transit lights
C come on, then go out.

C (7) Since fuel will enter tank 1A/3A at a greater rate than
C it will transfer into tank 1/3, the tank 1A/3A fueling
C valve will start to cycle (closed/open) when the fuel
C level reaches the tank 1A/3A high level float switch.

C (8) Continue fueling and transferring fuel until the
C desired loading has been achieved.

C 4. Servicing - Training Flights

C A. The following Training Flights Standard Fuel Load are for a
C two and four hour training period. If other than Fuel Load
C given is required, the Instructor/Pilot will advise foreman
C of desired Fuel Load.

C Fuel Required -

C Two Hour Flight Fuel

C 23,000 lbs in tanks 1 and 3

C 11,500 lbs in tanks 2L and 2R

C	TOTAL	69,000 lbs
C	Four Hour Flight Fuel	
C	30,000 lbs in tanks 1 and 3	
C	15,000 lbs in tanks 2L and 2R	
C	TOTAL	90,000 lbs

TOTAL FUEL LOAD GALLONS	TANK 2L (GAL)	TANK 1 (GAL)	TANK 3 (GAL)	TANK 2R (GAL)
3000	500	1000	1000	500
[illegible]	[illegible]	1200	1200	[illegible]
4200	700	1400	1400	700
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5600	950	1800	[illegible]	950
6000	1000	2000	2000	1000
[illegible]	1100	[illegible]	2200	1100
7200	1200	2400	2400	1200
7800	1300	2600	2600	1300
8400	1400	2800	2800	1400
9000	1500	3000	3000	[illegible]
9402	1567	3134	3134	1567
9600	1666	3134	3134	[illegible]
[illegible]	1900	3134	3134	1900
10800	2256	3134	3134	2266
11400	2566	3134	3134	2566
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12536	3134	3134	3134	3134
12542	3135	3135	3135	3135
12598	3144	3155	3155	3144
12696	3159	3184	3184	3159
13000	3212	3288	3288	3212
[illegible]	3379	3621	3621	3379
15000	3546	3954	3954	3546
16000	3712	4288	4288	3712
16716	3828 (FULL)	4530	4530	3828 (FULL)
16718	3828	4531	4531	3828
16720	3828	4532	4532	3828
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18000	3828	5172	5172	3828
19000	3828	5672	5672	3828
20000	3828	6172	6172	3828
21000	3828	6672	6672	3828
22000	3828	7172	7172	3828
23000	3828	7672	7672	3828
23814	3828	8079 (FULL)	8079 (FULL)	3828

AIRCRAFT 11001 THRU 11017 AND 21018 THRU 21024 AND 21027

23000	3828	7672	7672	[illegible]
[illegible]	[illegible]	8172	8172	3828
25000	3828	8672	8672	[illegible]
[illegible]	3828	9172	9172	[illegible]
26020	3828	9482 (FULL)	9482 (FULL)	3828

AIRCRAFT 31025, 31026, 31028 THRU 31096

M1-0301-12-708

CR
CR

Fuel Loading Distribution
Figure 306 (Sheet 1)

EFFECTIVITY: ALL

003B

Guideline For Using Fuel Distribution Chart:

1. Determine total fuel load in pounds and station density.

   EXAMPLE: TOTAL FUEL LOAD 88100 LBS
   STATION DENSITY 6.79

   $$\frac{88,100}{6.79} = -12975 \text{ GALS}$$

2. Using above chart total fuel load column, find closest number to 12,975 Gals, which is between 12686 and 13000.

3. Using the chart as a guideline, distribute equally between tank 1, 2 and 3.

   Tank 1 - 3280 gals - Tank 3 - 3280 gals
   Tank 2L - 3208 and Tank 2R 3208

4. Multiply total gallons and each tank gallons by 6.79. Place results on M180.

5. When 2L and 2R tanks are full (3828 gallons) remaining must be loaded in tanks 1 and 3.

GRAVITY FUELING - SERVICING

1. Referenced Procedures

	12-11-03	Fuel Level Sight Gages - Servicing
R	12-11-02	Fuel System - Servicing
	12-11-11	Underwing Pressure-Fueling - Servicing
	24-00-00	Electrical Power - Maintenance Practices

2. General

R R WARNING: WHEN WIDE CUT FUEL IS TO BE UPLIFTED REFER TO SPECIAL PROCEDURES PARAGRAPH 2C.

Overwing, gravity fueling ports are located in the upper wing surfaces of both inboard and outboard sections of tanks 2L and 2R. Manual refueling of the aircraft is done by filling both inboard and outboard tank sections and then transferring fuel to tanks 1 and 3 (and wing center section tanks 1A and 3A) using the tank 2L and 2R boost pumps.

Tank 2L and 2R defuel valves and at least one of the two tank 1 and 3 fueling valves must be operable. On aircraft with wing center section tanks, in event both fueling valves in tank 1 and 3 are inoperative, tank 1 or 3 can be refueled by transferring fuel from the companion 1A or 3A tanks (assuming that 1A and 3A fueling valves are operable).

NOTE: Refer to 12-11-11 UNDERWING PRESSURE FUELING - SERVICING for procedures used to open fueling valves that are inoperative due to loss of valve open circuit continuity caused by a faulty fuel level control switch.

Both 28V dc and 115V ac electrical power is normally required; 28V dc to operate the fueling/defueling system valves, and 115V ac for operation of the fuel quantity indicators.

If ac power is not available, fuel quantity indicators will be inoperative and the manually extended fuel level sight gage sticks must be used to determine the amount of fuel loaded into each tank.

Fuel loading distribution data charts are provided in section 12-11-11. Fuel level sight gage indications corrected for various out-of-level aircraft attitudes are provided in section 12-11-03.

Tanks 2L and 2R contain two separate sections connected by low and high level fuel transfer manifolds and an outboard to inboard section float actuated fuel transfer valve. When refueling with only one fuel nozzle available, the outboard tank section is filled first. Initially fuel will flow through the low level fuel transfer manifold and float actuated transfer valve into the surge box located in the inboard section. This flow stops when the surge box fuel level rises high enough to close the transfer valve. Overfilling of the outboard tank section is prevented by the high level fuel transfer manifold through which fuel will flow into the inboard section. The fuel nozzle is then transferred to the inboard tank fill port and the remaining amount of required fuel load for tank 2L or 2R is pumped into the inboard tank.

Over long periods of aircraft standing idle, fuel can migrate from the outboard section to the inboard section of tanks 2L and 2R (usually due to seepage through the surge box flapper valves). This fuel is normally transferred back to the outboard section by the jet pump fuel scavenging system when the appropriate tank 2L or 2R boost pumps are turned on (Ref. 28-24-00).

Abnormally high rates of fuel migration should be investigated and corrected.

A. Preliminary Procedures

CR CR WARNING: FUEL CAN TEMPORARILY RETAIN A STATIC CHARGE. FUEL SERVICING EQUIPMENT MUST, THEREFORE, BE BONDED. CONNECT FUELING TRUCK AND AIRCRAFT BONDING CONTACTS BEFORE FUELING. FUELING OR DE-FUELING SHALL BE DISCONTINUED DURING SEVERE ELECTRICAL STORMS.

WARNING: DO NOT, UNDER ANY CIRCUMSTANCES, RUN THE APU OR AN ENGINE DURING OVERWING REFUELING.

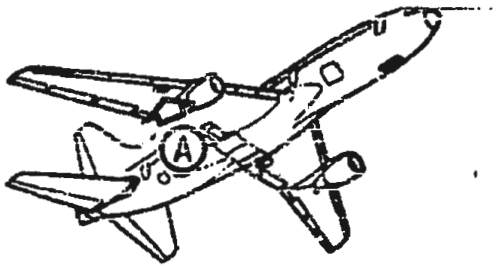
CAUTION: WHEN AIRCRAFT IS JACKED OFF LANDING GEAR, USE ALTERNATE GROUND STUDS.

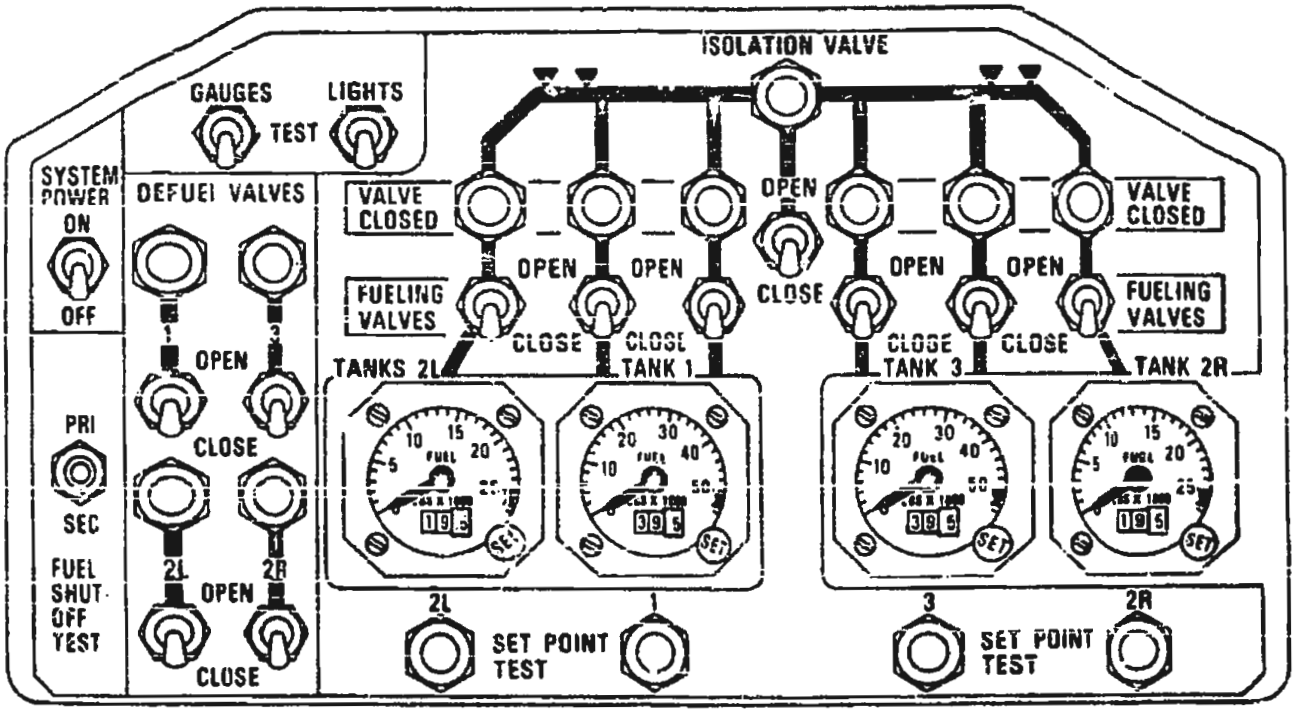
CR (1) Attach static bonding wires (Ref. to 12-11-11).

(2) Apply external aircraft power (Ref. 28-41-00).

(3) At the Flight Engineer/Second Officers station, zone 215, verify that FUEL JETTISON MASTER and DUMP switches are unlatched (OUT).

(4) Gain access to the fueling/defueling panel (Ref. Fig. 301) by opening fueling/defueling panel access door 621FB in the right wing leading edge.





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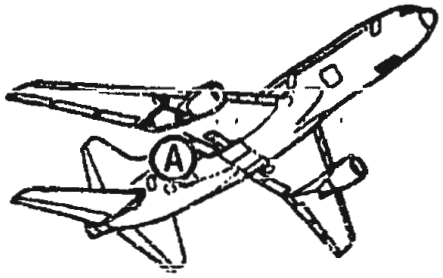
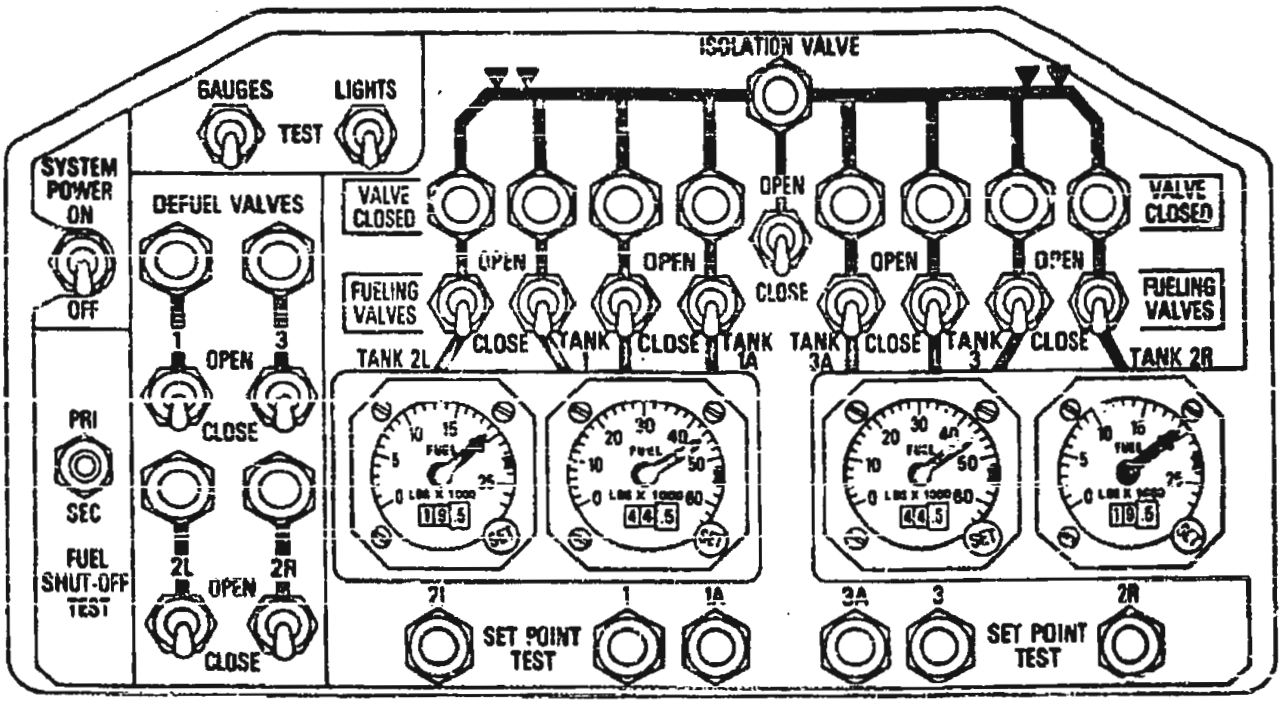
Fuel/Defueling Panel
Figure 301





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Fueling/Defueling Panel
Figure 301

(5) Place SYSTEM POWER switch to ON position. Fueling valve VALVE CLOSED lights must come on. SET POINT TEST lights will come on if respective indicator fuel shutoff index (bug) is set higher than pointer indication. If not so, set index higher than pointer and verify that light comes on.

NOTE: Tank 1A and 3A set point lights will come on only if the fuel shutoff indexes are set higher than 53,800 lbs (24,400 Kg).

(6) Verify that ISOLATION VALVE switch is in OFF position.

(7) With LIGHTS switch held in TEST position, verify that DEFUEL VALVES and ISOLATION VALVE in-transit lights come on.

(8) Test fuel quantity indicators by holding GAUGES switch in TEST position. Verify that all indicators drive upscale to the full mark. SET POINT TEST lights must go out as indicator pointer moves upscale past index.

(9) Release GAUGES switch. Indicator pointers must drive back downscale to previous reading. SET POINT lights come back on.

B. Fueling Aircraft

NOTE: If only one over-the-wing fueling nozzle is being used at each wing, fill the outboard section of tank 2L or 2R first. Then fill the inboard tank section through the inboard tank fill port.

(1) Connect fuel servicing nozzle ground wires to ground points on wing upper surface.

(2) Remove overwing gravity filler port caps.

(3) Remove fueling hose nozzle caps and insert nozzles into filler ports.

(4) As tanks 2L and 2R are filled, verify that the tank 2L and 2R fuel quantity indicators at the fueling/defueling panel move upscale. If fuel level sight gage is being used, verify that sight gage stick moves upward into tank. Fill tanks 2L and 2R to maximum capacity.

CAUTION: • FUEL QUANTITY INDICATORS AND/OR FUEL SIGHT GAGE STICKS MUST BE MONITORED AND REFUELING MANUALLY TERMINATED WHEN THE INBOARD TANK APPROACHES THE FULL MARK.

• DO NOT OPERATE BOOST PUMPS WITH LESS THAN 1200 POUNDS/545 KILOGRAMS OF FUEL IN TANK UNLESS THE BOOST PUMP HAS BEEN INSPECTED AS LISTED IN SECTION 28-24-02, PARA. 4B(4).

• IF BOOST PUMP CIRCUIT BREAKER TRIPS, DO NOT RESET UNTIL REASON FOR CIRCUIT BREAKER TRIP IS DETERMINED AND CORRECTIVE ACTION TAKEN.

(5) On fueling/defueling panel, set tank 1 and 3 indicator indexes to fuel quantity desired in tanks 1 and 3 and place tank 2L and 2R DEFUEL VALVES switches in OPEN position. Tank 2L and 2R DEFUEL VALVES in-transit lights will blink on, then off, indicating that the valves have opened.

NOTE: On aircraft with center section tanks 1A and 3A, provide a fuel quantity readout which is the sum of fuel in tanks 1 and 3 and their respective companion tanks 1A and 3A. If tanks 1A and 3A are being refueled, set the tank 1 and 3 indicator fuel shutoff indexes to the total fuel quantity desired in tank 1/1A and 3/A.

(6) Place tank 1, 1A, 3 and 3A FUELING VALVES switches to OPEN position. Tank 1, 1A, 3, and 3A fueling valve VALVE CLOSED lights going out indicate the respective fueling valves have opened.

(7) Place tank 2L and 2R DEFUEL VALVES switches to OPEN position. Tank 2L and 2R valve-in-transit lights blinking on, then out, indicates valve opening.

NOTE: When fueling pressure is applied to the fuel shutoff valves, the VALVE CLOSED indicator light may blink before going out. Blinking of this light is caused by air in the fueling valves.

(8) At FE/SO FUEL SYSTEM panel, turn on tank 2L/2R boost pumps by depressing (latching) TANK 2L PUMPS and TANK 2R PUMPS switchlights. Verify That tank 1, 1A, 3, and 3A fuel quantity indicator pointers begin to move upscale as fuel is transferred from tanks 2L and 2R into tanks 1, 1A, 3 and 3A.

NOTE: Tank 1 and 1A (also tank 3 and 3A) will begin to fill simultaneously. The amount of fuel that

will be admitted to tank 1A or 3A before being automatically shut off is the amount that exceeds tank 1 or 3 capacity only. This will be indicated by the 1A or 3A set point light going out and the respective tank fueling valve VALVE CLOSED light coming on. Tank 1 and 3 will continue to fill until shut off by the fuel level control switch (or indicator SET POINT relay, if set to terminate fuel flow at this level). To activate the tank 1 and 3 SET POINT indication of fuel shut off, reset the indicator index to maximum tank 1 (or 3) capacity when fuel flow into tank 1A or 3A is terminated.

If tank 1 or 3 is being refueled by transferring fuel from tank 1A or 3A, first fill tank 1A (or 3A). At the FE/SO fuel system panel, open tank 1A (or 3A) gravity transfer valve. Fuel will then flow into tank 1 (or 3) providing the fuel level in tank 1 (or 3) is less than the level in tank 1A (or 3A). Select tank 1A (3A) fuel transfer and turn on tank 1 and 3 boost pumps. Continue refueling of tank 1A (3A) and transfer of fuel to tank 1 (or 3) until the tank is full. Maintain tank 1A (3A) fuel load below level required for this tank. When tank 1 (or 3) is full, terminate 1A (3A) fuel transfer. Close gravity transfer valve and turn off 1 and 3 boost pumps. Then adjust tank 1A (3A) fuel quantity to desired level.

(9) Continue replenishing fuel transferred out of tanks 2L and 2R until the desired quantity of fuel, in tanks 1, 1A, 3, and 3A is acquired. Be prepared to close the fueling valve if fuel flow does not terminate (set point light out; valve closed light on) at the set point index.

(10) Turn off the tanks 2L and 2R boost pumps and close the tank 2L/2R defuel and tank 1, 1A, 3, and 3A fueling valves.

(11) Continue overwing refueling of tanks 2L and 2R until the desired distribution of fuel in the tank 2L/2R inboard and outboard sections is acquired.

(12) Verify that fuel distribution in all tanks is in accordance with the fuel loading schedule. If necessary, transfer fuel as required to meet the fuel loading requirement.

(13) Place SYSTEM POWER switch to OFF position and close the refueling/defueling panel access door.

(14) Remove fueling hose nozzles and install caps.

(15) Install and secure overwing filler caps.

(16) Retract all fuel sight gage sticks.

CR (17) Disconnect bonding wire from aircraft.

C. Wide Cut Fuel Special Procedures

NOTE: Gravity fueling of wide cut fuels should be avoided, if at all possible.

(1) Fuel being added shall be within the specified conductivity limits through the addition of the approved anti-static additive (Ref. MM 12-11-02). A check with the refueler shall be made to determine that the additive is in the fuel being furnished.

CR (a) Observe all precautions for normal gravity fueling with strict adherence to bonding procedures.

(b) Passengers may not be boarded or remain on board.

(c) A nozzle extension shall be used to reduce splashing by assuring extension either to the bottom of the tank or below the fuel level in the tank.

(d) The fueling nozzle shall be electrically bonded to the aircraft.

(e) Flow rates shall be approximately one half the normal rate.

LUBRICATING OIL REPLENISHING

R 1. General

R Lubricating oil replenishing procedures are contained in this R section.

ENGINE OIL REPLENISHING

1. Equipment and Materials

Approved oil:

C Lubricating oil, Humble Oil ETO-25.

C NOTE: Should it be necessary to add oil and ETO-25 is not
C available, contact MCIMD/MCIEE for alternate lubricants
C and approval. (Reference logbook entry per GP&P 1-10-0
C comments/notes).

C Oil Servicing Cart

Lockwire, Fed. Spec QQ-W-390, 0.032-inch diameter, or British Spec DTD. 189A, 22 SWG, or equivalent

2. Referenced Procedures

24-41-00	Electrical Power Supply - Maintenance Practices
71-11-00	Cowling, Engines No. 1 and 3 - Maintenance Practices
71-12-00	Cowling, Engine No. 2 - Maintenance Practices
72-01-00	Oil System - Cleaning/Painting
72-63-10	H.S. External Gearbox - Inspection/Check
79-00-00	Oil System - Fault Isolation

WARNING: THE SYNTHETIC LUBRICATING OIL USED IN THIS ENGINE MAY CAUSE IRRITATION IF SKIN CONTACT IS REPEATED OR PROLONGED. IMMEDIATELY AFTER SHUTDOWN, ENGINE OIL TEMPERATURE REMAINS HIGH. THEREFORE, EXTREME CARE IS TO BE OBSERVED WHEN WORKING NEAR TO OR ON ENGINE OIL
R SYSTEM COMPONENTS AND TUBES.

CAUTION: THE OIL SPECIFIED FOR USE IN THIS SYSTEM IS INJURIOUS TO PAINT AND CERTAIN TYPES OF RUBBER AND MUST NOT BE ALLOWED TO CONTAMINATE THOSE PARTS OF THE ENGINE NOT NORMALLY IN CONTACT WITH IT. ANY OIL SPILL MUST BE WIPED UP IMMEDIATELY.

CONTAMINATION BY MINUTE AMOUNTS OF CERTAIN ALKALINE CLEANING FLUIDS CAN CAUSE COMPLETE BREAKDOWN OF SYNTHETIC OIL. USE SCRUPULOUSLY CLEAN CONTAINERS.

IF ENGINE OIL TANK HAS BEEN REPLENISHED WITH NON-APPROVED ENGINE OIL, OIL SYSTEM MUST BE CLEANED (REF. 72-01-00).

ON ENGINES WITH RR SB72-3533,
THE USE OF IMPROVISED DIPSTICKS SUCH AS SCREWDRIVERS INSERTED INTO OIL FILLER CAP HOUSING CAN DAMAGE OIL CHECK VALVE FLOAT.

IF FUEL FUMES ARE PRESENT IN THE OIL TANK DURING OIL SERVICING, IMMEDIATELY PERFORM ABNORMAL OIL QUANTITY FAULT ISOLATION PROCEDURE (REF. FIM 79-00-00). IT IS RECOMMENDED THAT A DRAEGER HAND PUMP (RR PART NO. 1013832) FITTED WITH A HYDROCARBON 2 TUBE (RR PART NO. 1013833) OR A COMBUSTIBLE GAS DETECTOR (RR PART NO. 1018157) IS USED TO CONFIRM THE PRESENCE OF FUEL FUMES AS DETAILED IN THE FOLLOWING PROCEDURE PARA. A.

A. Check for fuel fumes

NOTE: Check for fuel fumes soon after engine shut down. If fuel is present in the oil system, the resultant vapor is easier to detect when the oil tank contents are hot. Do the check only if fuel fumes are suspected, or the oil tank contents are abnormally high. Use either procedure (1) or (2) below to check if fuel fumes are present.

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R
R

(1) Use a Draeger hand pump (RR Part No. 1013832) fitted with a hydorcarbon 2 tube (RR Part No. 1013833) in accordance with the manufacturer's instructions.

(2) Use a combustible gas detector (RR Part No. 1018157) as detailed in the following procedure:

(a) Calibrate the detector:

• Turn the detector on and adjust for a rapid ticking signal.

• Add a few drops of aircraft fuel to a container of hot water and immediately place the sensor head near the resulting vapor.

• The detector should produce a high pitched tone. If no change of tone is noted, recharge battery or replace unit.

NOTE: The combustible gas detector should be checked regularly for correct operation.

(b) Switch on combustible gas detector and allow unit to warm up until a ticking noise is heard. This should occur within approximately one minute.

(c) Adjust sensitivity knob until a rapid ticking signal is heard (high sensitivity).

(d) Locate the sensor head just inside the oil tank filler neck.

(e) If fuel vapors are present, the detector will produce a loud, high pitched tone. If a warning tone is noted while checking an oil tank, make sure that the fuel vapor is not coming from a spill in the general area outside the oil system. If necessary, draw a sample of fluid from the oil tank and check again in a remote location. Whenever possible, a positive detected sample of fluid should be sent for laboratory analysis for confirmation of fuel content before making a decision.

(f) If a sample proves positive, the problem must be corrected immediately (Ref. 79-00-00)

3. Servicing

NOTE: Before assessing engine oil contents prior to oil servicing, allow a minimum of 10 minutes to elapse after engine rotation has ceased.

C NOTE: Oil tank capacity is 21 qts. However when using No.
C 2 engine oil tank servicing unit (GEN-3588), maximum
C oil capacity No. 2 engine will be 18.5 qts. Total
C oil capacity of the system is 36 qts.

A. Pressure Filling Number Two Engine High Speed Gear Box.

NOTE: Use approved oil servicing equipment. Approved oil servicing equipment is defined in GP&P, Chapter 7.

If approved oil servicing equipment is not available number two engine must be serviced using number 1 and 3 engine procedure (Gravity filling through filler cap).

(1) Open oil filler access door 4339L.

(2) Remove dust covers from drain and fill tube fitting and connect oil service equipment drain and fill hoses to quick disconnect tube fittings in engine compartment (Fig. 303).

(3) Set service equipment flow meter indicator knob to zero (Ref. Fig. 301).

(4) Establish vacuum on drain hose, following instructions provided on service equipment.

(5) Observe drain sight gauge. Wait until drain sight gauge runs clear before proceeding.

(6) Add oil to engine following service equipment instructions. Add oil in one (1) quart increments until oil flows in drain sight gauge. Stop oil servicing.

NOTE: Oil service equipment flow meters are calibrated in either pints or quarts. Determine oil service equipment flow meter calibration and report all oil adds in quarts [One (1) quart equals two (2) pints].

(7) Allow vacuum to operate until drain sight gauge again runs clear.

(8) Shut off vacuum, following service equipment instructions.

(9) Disconnect oil service equipment drain and fill hose from fittings in engine compartment and replace dust covers.

(10) Close and latch filler access door 4338L.

C B. Gravity-Filling High-Speed External Gearbox (Engine Oil
C Storage)

C (1) Deleted

C (2) Deleted

C (3) Deleted

(4) Open oil filler access door 413B or 423B for engines No. 1 and No. 3 (Ref. 71-11-00), or 433BL for engine No. 2 (Ref. 71-12-00).

(5) Remove oil filler cap to expose filler strainer and check oil level (Ref. Fig. 302).

(6) If oil level is visible above kidney shaped ports at bottom of filler cap housing proceed as follows:

CAUTION: IF OIL TANK APPEARS FULL FOLLOWING FLIGHT OR PROLONGED ENGINE OPERATION IT MUST BE SUSPECTED THAT THE OIL TANK CHECK VALVE IS STICKING CAUSING OIL TO BE TRAPPED IN FILLER CAP HOUSING.

(a) Agitate oil in filler cap housing or gently tap gearbox case directly below filler cap housing.

(b) If oil level does not fall and engine has been previously operated for one hour or more inspect oil tank check valve (Ref. 72-63-10). If engine was not previously operated proceed to Paragraph 3B(9) and (10).

NOTE: After adding oil wait five seconds and recheck that oil level has stabilized above kidney-shaped ports. If not add oil as required.

(c) If oil level has dropped, add oil of an approved type until oil level is visible above kidney-shaped ports at bottom of filler cap housing. Note oil quantity added.

(7) If oil level is not visible above kidney shaped ports at bottom of filler cap housing proceed as follows:

CAUTION: IF ADDING ADDITIONAL OIL OF APPROX 0.5 U.S. PINT (0.4 IMP PINT, 0.24 LITRE) FOLLOWING FLIGHT OR PROLONGED ENGINE OPERATION RAISES OIL LEVEL FROM BELOW KIDNEY-SHAPED PORTS TO FILLER CAP SEATING FLANGE IT MUST BE SUSPECTED THAT THE OIL TANK CHECK VALVE IS STICKING PREVENTING OIL FROM ENTERING TANK, IN WHICH CASE INSPECT OIL TANK CHECK VALVE (REF. 72-63-10).

(a) Add oil of an approved type until oil level is visible above kidney-shaped ports at bottom of filler cap housing. Note quantity of oil added.

NOTE: After adding oil, wait five seconds and recheck that oil level has stabilized above kidney-shaped ports. If not, add oil as required.

C (8) Deleted

CAUTION: ENSURE THAT FILLER CAP IS FLUSH WITH ADAPTER, AND
C HANDLE IS FLUSH IN DETENT (REF. FIG. 302).

(9) Replace and secure oil filler cap as follows:

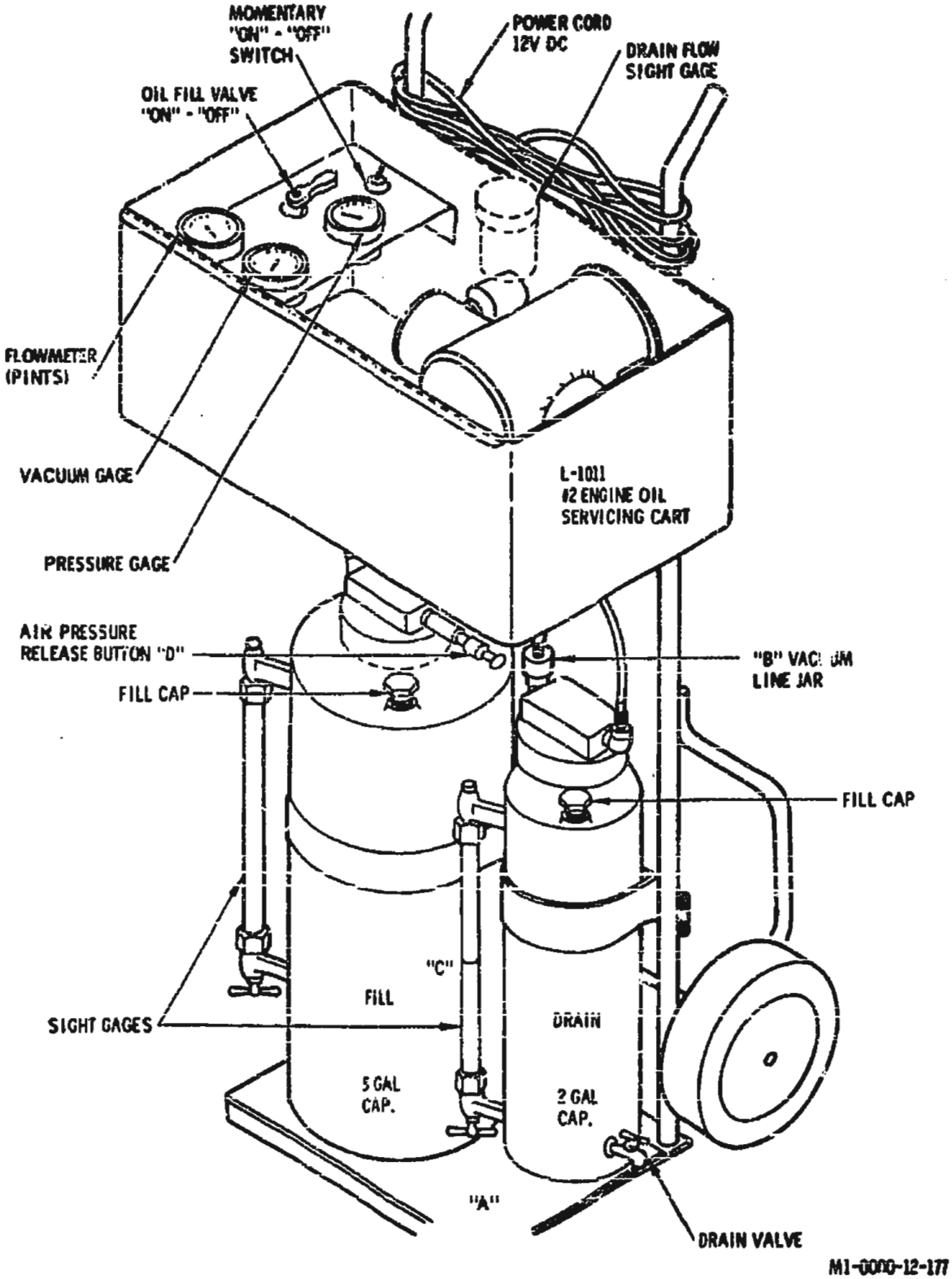
(a) Place the handle firmly against the built-in OPEN stops, insert the cap assembly into the adapter, check that the cone (with three locking lugs) is positioned so the lugs mate with the cut-outs of the adapter, and check that the cap is properly seated into the adapter.

(b) Rotate the handle approximately 50 degrees in a clockwise direction until the built-in CLOSED stops are contacted.

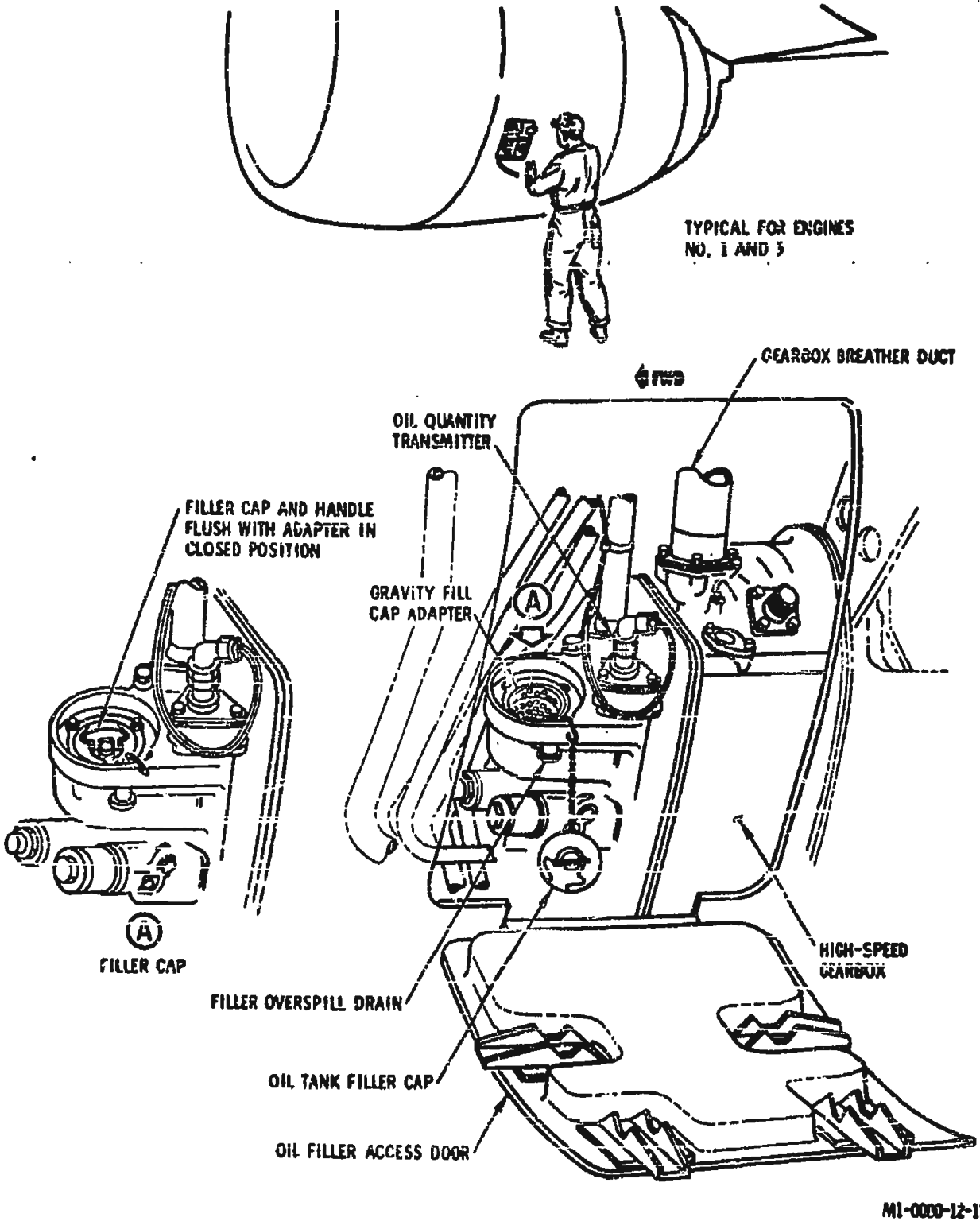
(c) Lock the cap assembly by depressing the handle from its vertical position until it is seated in its horizontal position in the recess in the cap base.

(d) Check visually or by feeling that the handle is flush or slightly below the upper surface of the cap base and that the attachment chain is not beneath the handle.

(10) Close oil filler access door, 413B or 423B for engines No. 1 and No. 3 (Ref. 71-11-00), or 433BL for engine No. 2 (Ref. 71-12-00).



C
C Engine No. 2 Oil Service Cart
Figure 301



C Engine No. 1 and 3 Oil Replenishing
C Figure 302

R EFFECTIVITY: ALL
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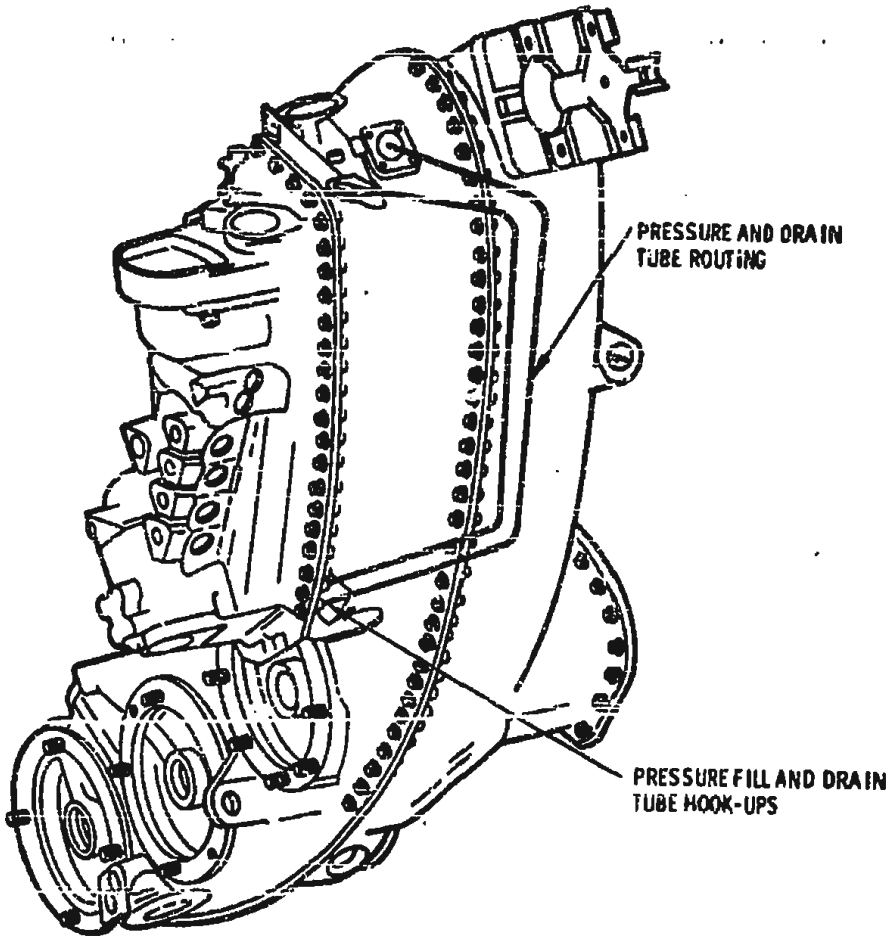

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C High Speed External Gearbox Pressure Fill and Overflow
C Figure 303

ENGINE STARTER OIL REPLENISHING

1. Equipment and Materials

C Mobile Jet Oil 254

2. Referenced Procedures

71-11-00 Cowling, Engines No. 1 and 3 - Maintenance Practices

71-12-00 Cowling, Engine No. 2 - Maintenance

C 80-11-07

C Engine Pneumatic Starter - Inspection and Check

3. Servicing

CAUTION: DO NOT USE UNAPPROVED BRANDS OR TYPES OF OIL. DO NOT MIX BRAND NAME OILS UNLESS SPECIFICALLY AUTHORIZED.

A. Replenishing Engine Pneumatic Starter

C (1) On Flight Engineer/Second Officers aft circuit breaker panel CB3, Zone 215, open and tag applicable start air valve circuit breaker.

C (2) Remove servicing plug from oil fill port.

C (3) Place container and funnel under starter oil drain plug.

C (4) Remove magnetic plug and visually inspect for metal particles. Reinstall plug with new O-Ring seal (Ref. 80-11-07, Inspection and Check).

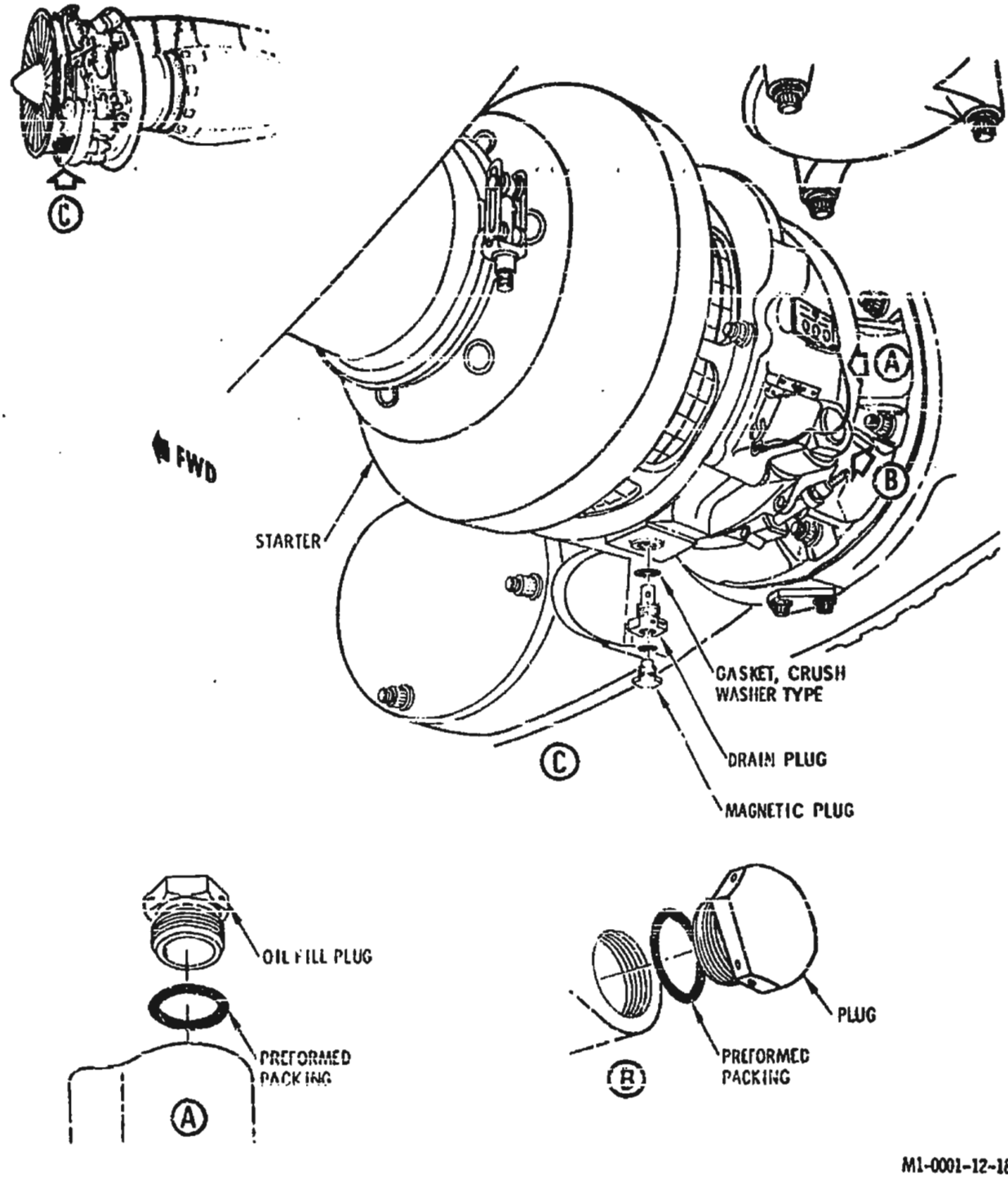
C (5) Remove drain plug with magnetic plug, and drain oil.

CR (6) Replace clean drain plug, using new crush washer type gasket. Torque drain plug 10 to 25 lb in. and lockwire.

C (7) Add oil to the top of filler port (9 oz).

C (8) Discard used preformed packing and install new packing on fill plug. Install plug and torque 20 to 25 lb in. and lockwire.

C (9) Remove tag and close circuit breaker opened in Step 3A
C (1).



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CR
CR

Starter Oil Replenishing
Figure 301

EFFECTIVITY: ALL

001B

INTEGRATED DRIVE GENERATOR (IDG) - OIL REPLENISHING

1. Equipment and Materials

Oil Servicing Cart, P/N 5000-55G-74A, Western Fluidics, or equivalent

Oil replenishing equipment with 40-micron (minimum) filter (for gravity filling only)

CR Exxon ETO 2380

Acryloid, Lubricant HF825, or equivalent

Lock-wire (0.032-inch-diameter) Fed Spec QQ-W-390, or equivalent

CAUTION: DO NOT MIX BRANDS OR TYPES OF LUBRICATING OILS; OILS ARE NOT COMPATIBLE.

2. Referenced Procedures

24-11-02	Constant Speed Drive Oil Filters - Removal and Installation
24-21-01	Integrated Drive Generator (IDG) Assembly - Inspection and Check
80-11-00	Engine Starting System - Maintenance Practices

3. Servicing

A. On Aircraft 001-031 Without SB24-082, Pressure Filling

(1) Open cowl panel 413D for engine No. 1, 433AL for engine No. 2, or 423D for engine No. 3.

CAUTION: DO NOT OVERFILL. OVERFILLING CAN CAUSE DAMAGE TO THE IDG.

NEVER MIX TWO DIFFERENT OILS, EVEN THOUGH LISTED AS EQUIVALENTS.

ON INITIAL FILL OR REFILL, AVOID INTERNAL PRESSURE BUILDUP BY LOOSENING GRAVITY FILL PLUG (REF. FIG. 301).

NOTE: The case must be vented when the IDG is being filled, if the oil cooler has been removed or if the oil level is not visible in the sight glass. For normal replenishing of oil, when the oil level is low but can be observed in the sight glass, the gravity fill plug need not be loosened to vent the case.

R NOTE: On aircraft with Sundstrand Service Bulletin
R 24-1413 accomplished, oil will not be changed on
R aircraft. Oil coloration will be only factor in
R determining oil condition. If oil is dark or
R black, IDG must be removed and returned to
R overhaul facility.

(2) Remove pressure fill cap, attach pressure fill cart to pressure fill port, and add oil. Add 8.5 quarts (8.044 liters) for a drained oil system to achieve the proper oil level on the IDG oil level sight glass (Ref. Fig. 301).

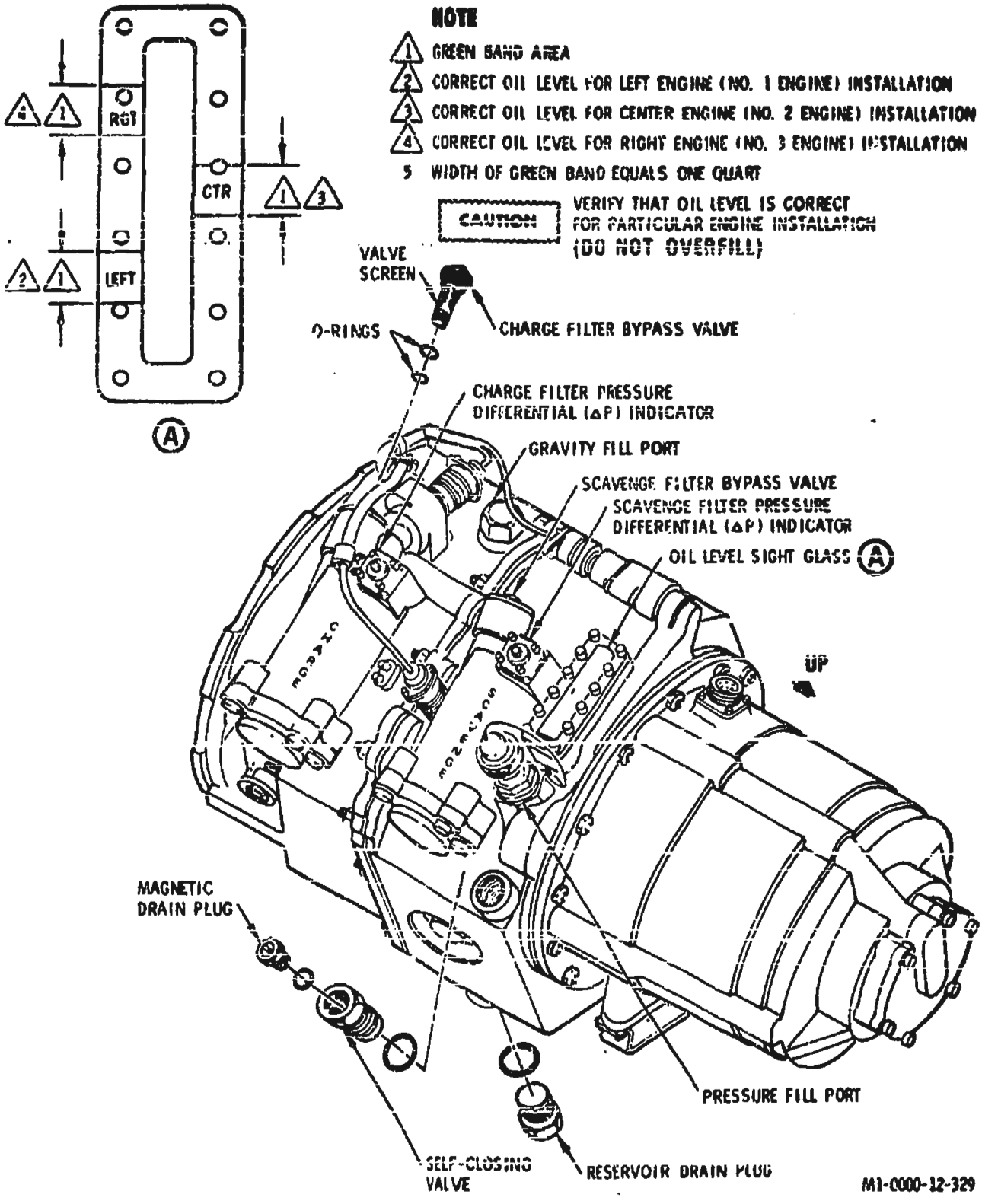
NOTE: When filled, the oil level shall be 3/8 inch to
C 1/2 inch below the top of the green band on the
C sight glass to prevent overfill. Allow the oil
C level to stabilize for 5 minutes, then if necessary, add more oil. There are three green bands on the IDG oil level indicator plate, one for each engine location. Verify that the IDG is filled to the proper green band. Read the low end of the curved indication in the sight gage.

(3) Disconnect pressure fill cart and reinstall pressure fill cap.

CAUTION: ACRYLOID LUBRICANT OR EQUIVALENT MUST BE USED TO INSTALL O-RINGS.

(4) When filling a drained oil system, motor engine (Ref. 71-00-00) for 2 minutes. Wait 5 minutes after engine shutdown before checking oil level. Check for oil leaks and repair as necessary.

CAUTION: DO NOT RECONNECT AN IDG THAT HAS BEEN DISCONNECTED FOR CAUSE. RECONNECT FOR PRIMING WHILE ADDING OIL IS NOT NECESSARY. THE IDG IS CAPABLE OF 25 HOURS OF OPERATION IN THE DISCONNECTED MODE WITHOUT OIL IN THE IDG. HOWEVER THIS WILL REDUCE THE


NOTE
1 GREEN BAND AREA
2 CORRECT OIL LEVEL FOR LEFT ENGINE (NO. 1 ENGINE) INSTALLATION
3 CORRECT OIL LEVEL FOR CENTER ENGINE (NO. 2 ENGINE) INSTALLATION
4 CORRECT OIL LEVEL FOR RIGHT ENGINE (NO. 3 ENGINE) INSTALLATION
5 WIDTH OF GREEN BAND EQUALS ONE QUART
CAUTION
VERIFY THAT OIL LEVEL IS CORRECT FOR PARTICULAR ENGINE INSTALLATION (DO NOT OVERFILL)
RGT
CTR
LEFT
A
VALVE SCREEN
O-RINGS
CHARGE FILTER BYPASS VALVE
CHARGE FILTER PRESSURE DIFFERENTIAL (ΔP) INDICATOR
GRAVITY FILL PORT
SCAVENGE FILTER BYPASS VALVE
SCAVENGE FILTER PRESSURE DIFFERENTIAL (ΔP) INDICATOR
OIL LEVEL SIGHT GLASS
UP
MAGNETIC DRAIN PLUG
PRESSURE FILL PORT
SELF-CLOSING VALVE
RESERVOIR DRAIN PLUG
M1-0000-12-329

R
R Integrated Drive Generator Servicing Points
Figure 301

SUBSEQUENT LIFE OF THE BEARING. FILLING WITH OIL WILL AVOID UNNECESSARY WEAR. USE STATIC OIL SUPPLY ONLY (NON-PRESSURE FILL). RECONNECTING CAN RESULT IN FURTHER DAMAGE. REMOVE AND REPLACE DISCONNECTED UNIT (REF. 24-11-01, 401).

NOTE: Motoring not needed if adding oil to a partially filled IDG oil system.

(5) Check oil level. Oil level must be within green band area of sight glass.

NOTE: If gravity fill plug was removed, reinstall plug using new O-ring lubricated with Acryloid. Torque gravity fill plug 10 to 12 lb ft and lock-wire.

(6) Close and lock cowl panel.

A. On Aircraft 001-031 With SB24-082 And 032-999, Pressure Filling

(1) Open cowl panel 413A for engine No. 1, 433AL for engine No. 2, or 423A for engine No. 3.

CAUTION: DO NOT OVERFILL. OVERFILLING CAN CAUSE DAMAGE TO THE IDG.

NEVER MIX TWO DIFFERENT OILS, EVEN THOUGH LISTED AS EQUIVALENTS.

PUSH VENT VALVE TO RELIEVE INTERNAL PRESSURE (Ref. Fig. 301).

NOTE: The case should be vented before filling the IDG, removing the oil cooler, or when replenishing the oil supply. This will prevent oil spraying from fittings that must be removed.

NOTE: On aircraft with Sundstrand Service Bulletin 24-1413 accomplished, oil will not be changed on aircraft. Oil coloration will be only factor in determining oil condition. If the oil is dark or black, IDG must be removed and returned to overhaul facility.

WARNING: PUSHING THE VENT RELIEF VALVE MAY CAUSE SOME OIL TO SPRAY OUT OF VENT. AFTER PUSHING THE PRESSURE RELIEF VALVE, PERSONNEL SHOULD STAND BACK A SAFE DISTANCE.

(2) Push down button on vent valve to relieve internal pressure (Ref. Fig. 301).

(3) Remove dual cap assembly from the pressure fill fitting and standpipe fitting. Do not pry on the dual cap assembly during removal. The right-hand cap has a lock/unlock feature which can be installed or removed by pushing or pulling by hand. The left-hand cap is a snap action type. Connect a pressure fill cart (40 pounds per square inch supply source) to the pressure fill port (Ref. Fig. 301).

NOTE: Be prepared to catch a small amount of overflow oil (400cc) in a suitable container.

Some residual oil may be present in the IDG causing a small amount to drain out when the dual cap assembly is removed.

This condition is normal.

(4) Pump oil into the IDG at 25 to 40 pounds per square inch pressure until the oil starts to flow from the standpipe drain port.

(5) Stop pumping and disconnect servicing cart.

CAUTION: BE SURE THE STANDPIPE ASSEMBLY IS SECURELY ATTACHED TO THE STANDPIPE FITTING ASSEMBLY. FAILURE TO DO SO WILL RESULT IN OIL LEAKAGE AND DAMAGE TO IDG.

(6) Wait 3 minutes and allow oil to stop dripping. Install the dual cap assembly on the pressure fill fitting and standpipe fitting.

NOTE: Do not refer to the sight glass indicator during the filling procedure since the standpipe automatically sets the correct oil level. The sight glass is only a LOW oil level indicator.

When using the standpipe filling procedure, the engine need not be motored since only one servicing is required.

(7) The oil level check is performed by observing the oil level in the IDG sight glass after the system has been shut down for at least 5 minutes. The oil level should be above the applicable black line (Ref. Fig. 301).

NOTE: The oil level indicator on drive end bearing configuration IDGs is a "low oil" indicator

(contrary to previous IDG indicators that provide a band of allowable oil level). There are three black low level indication lines on the IDG oil indicator plate; one for the left, the right, and the center engine. Service the IDG with oil if the level is at or below the designated black line.

B. Special Filling Instructions for Disconnected IDG

CAUTION: DO NOT RECONNECT THE TRANSMISSION AFTER PERFORMING SPECIAL FILLING FOR DISCONNECTED OPERATION OR FURTHER TRANSMISSION DAMAGE MAY RESULT.

(1) If it is necessary to continue a flight with the IDG disconnected, the IDG should be serviced to the normal oil fill level (Ref. 24-11-01,401).

C. On Aircraft 001-031 Without SB24-082, Alternate Gravity Filling

(1) Open cowl panel 413A for engine No. 1, 433AL for engine No. 2, or 423A for engine No. 3.

(2) Remove gravity fill plug.

CAUTION: NOT OVERFILL IDG.

(3) Slowly fill IDG to correct green level mark.

NOTE: Three green level indicators are provided on the IDG sight glass. Use the indicator level for applicable engine.

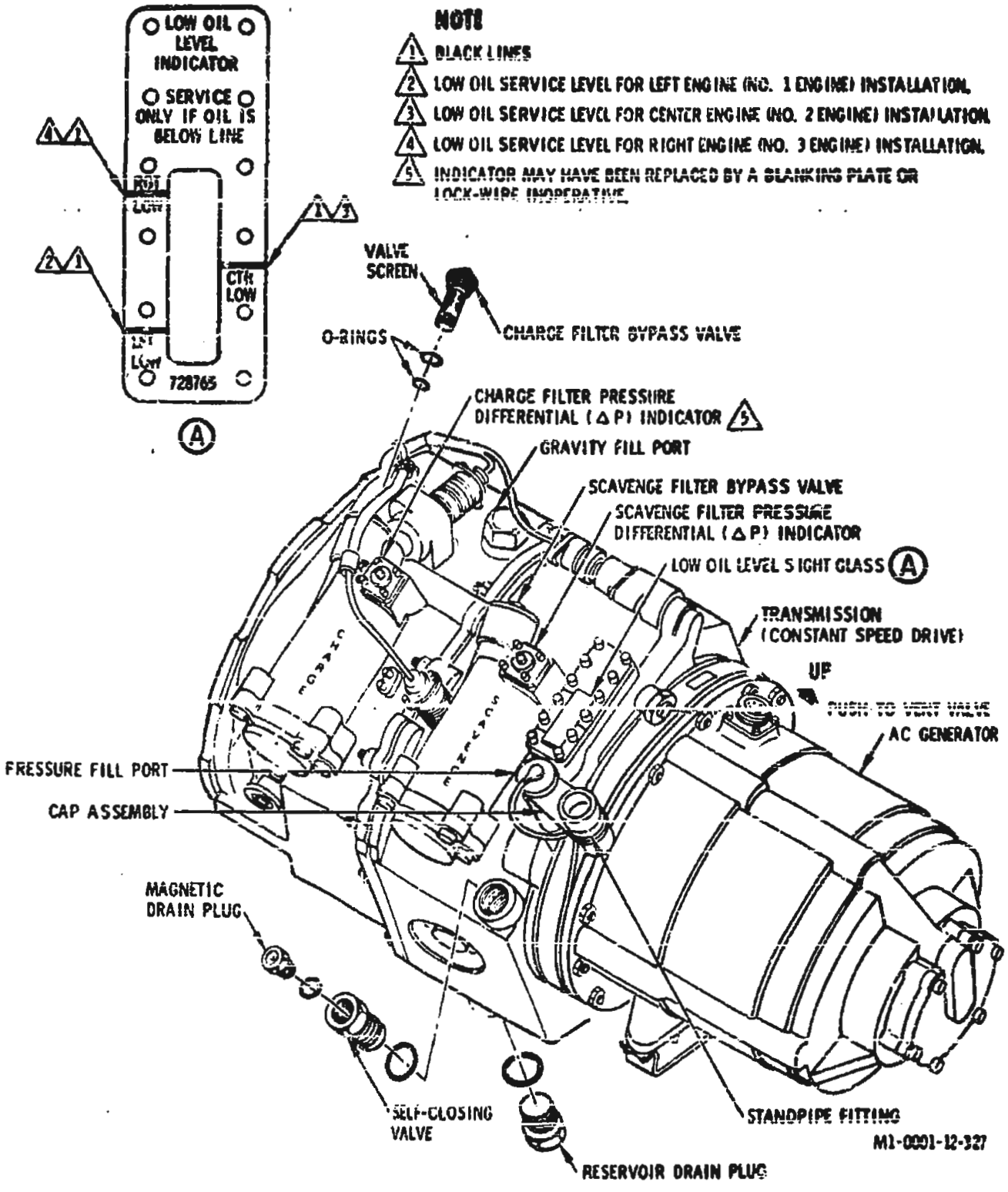
CAUTION: ACRYLOID LUBRICANT OR EQUIVALENT MUST BE USED TO INSTALL O-RINGS.

(4) Install new O-ring on gravity fill port plug. Reinstall plug, torque to 120 to 144 lb-in., and lock-wire.

(5) Close and lock cowl panel.

C. On Aircraft 001-031 With SB24-082 And 032-999, Alternate Gravity Filling

(1) Open cowl panel 413A for engine No. 1, or 433AL for engine No. 2, or 423A for engine No. 3.


LOW OIL LEVEL INDICATOR
SERVICE ONLY IF OIL IS BELOW LINE
LOW
CTR LOW
728765
A
NOTE
1 BLACK LINES
2 LOW OIL SERVICE LEVEL FOR LEFT ENGINE (NO. 1 ENGINE) INSTALLATION.
3 LOW OIL SERVICE LEVEL FOR CENTER ENGINE (NO. 2 ENGINE) INSTALLATION.
4 LOW OIL SERVICE LEVEL FOR RIGHT ENGINE (NO. 3 ENGINE) INSTALLATION.
5 INDICATOR MAY HAVE BEEN REPLACED BY A BLANKING PLATE OR LOCK-WIRE INOPERATIVE.
VALVE SCREEN
O-RINGS
CHARGE FILTER BYPASS VALVE
CHARGE FILTER PRESSURE DIFFERENTIAL (ΔP) INDICATOR 5
GRAVITY FILL PORT
SCAVENGE FILTER BYPASS VALVE
SCAVENGE FILTER PRESSURE DIFFERENTIAL (ΔP) INDICATOR
LOW OIL LEVEL SIGHT GLASS A
TRANSMISSION (CONSTANT SPEED DRIVE)
UP
PUSH TO VENT VALVE
AC GENERATOR
PRESSURE FILL PORT
CAP ASSEMBLY
MAGNETIC DRAIN PLUG
SELF-CLOSING VALVE
STANDPIPE FITTING
RESERVOIR DRAIN PLUG
M1-0001-12-327

R Integrated Drive Generator Servicing Points
R Figure 301

R R R R WARNING: PUSHING THE VENT RELIEF VALVE MAY CAUSE SOME OIL SPRAY OUT OF VENT. AFTER PUSHING THE PRESSURE RELIEF VALVE, PERSONNEL SHOULD STAND BACK A SAFE DISTANCE.

(2) Push down button on vent valve to relieve internal pressure (Ref. Fig. 301).

(3) Remove dual cap assembly from the pressure fill fitting and standpipe fitting. Do not pry on the dual cap assembly during removal. The right-hand cap has a lock/unlock feature which can be installed or removed by pushing or pulling by hand. The left-hand cap is a snap action type.

NOTE: Be prepared to catch a small amount of overflow oil (400cc) in a suitable container. Some residual oil may be present in the IDG causing a small amount to drain out when the dual cap assembly is removed.

This condition is normal.

(4) Remove gravity fill plug.

CAUTION: NOT OVERFILL IDG.

(5) Fill IDG until oil starts to flow from the standpipe drain port.

(6) Wait 3 minutes and allow oil to stop dripping. Install the dual cap assembly on the pressure fill fitting and standpipe fitting.

NOTE: Do not refer to the sight glass indicator during the filling procedure since the standpipe automatically sets the correct level. The sight glass is only a low oil level indicator.

(7) Motor the system and repeat Steps 2 thru 6 to insure proper oil level.

CAUTION: ACRYLOID LUBRICANT OR EQUIVALENT MUST BE USED TO INSTALL O-RINGS.

(8) Install new O-ring on gravity fill port plug. Reinstall plug, torque to 120 to 144 lb-in., and lock-wire.

AIR CYCLE MACHINE (ACM) OIL REPLENISHING

1. Equipment and Materials

To drain oil system:

Container (1 U.S. pint, minimum)

To fill oil system:

Lock-wire, Fed Spec QQ-W-390, 0.32 diameter, or equivalent

Lubricating oil EXXON 2380 per MIL-L-23699 no equivalent

O-rings, Hamilton Standard PN 69494K903, or equivalent

2. Servicing

R CAUTION: ACM SUMPS MUST BE INSPECTED FOR WATER CONTAMINATION
R (REF. PARA. 2C) IF SUMPS ARE JUST BEING TOPPED OFF.
R IF WATER CONTAMINATION IS FOUND, SUMPS MUST BE
R COMPLETELY DRAINED (REF. PARA. 2A).

DO NOT MIX LUBRICATING OILS.

Servicing procedures are the same for the No. 1, No. 2, and No. 3 air cycle machines (ACM) except for zone, and access door references. The No. 1 ACM is in zone 117 with access through ECS access door 117AL. No. 2 and No. 3 ACM's are in zone 118 with access through ECS access door 118CR (Ref. Fig. 301).

A. Draining Oil Sump

R NOTE: Proceed to Para. 2B if replenishing of sump oil is
R all that's desired.

(1) Open environmental control system (ECS) compartment door (117AL or 118CR as required).

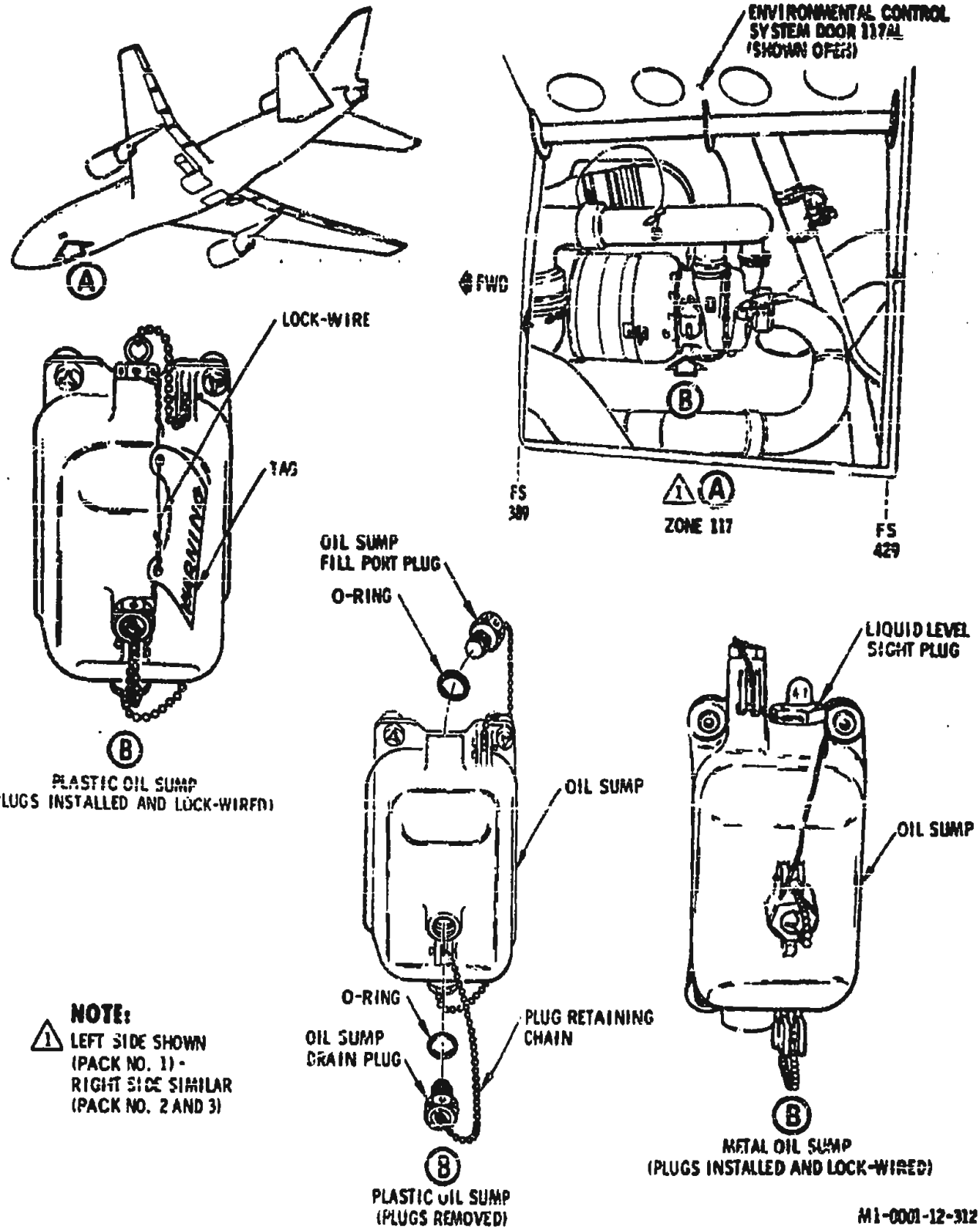
(2) Remove lock-wire from sump drain plug (retain warning tag for reinstallation).

(3) Position container under sump drain plug.

(4) Remove drain plug.

(5) Drain oil from sump.

(6) Remove and discard O-ring on drain plug.



R
R

Air Cycle Machine Servicing
Figure 301

R (7) Install new o-ring (Hamilton Standard PN 69494K903) on
R drain plug.

R (8) Install oil sump drain plug and torque 15 to 25 lb in.
R above running torque.

B. Filling Oil Sump

R (1) Open environmental control system (ECS) compartment
R door (117AL or 118CR as required) if not previously
R opened in Para. 2A(1).

R (2) Check for water contamination if sump is just being
R topped off and was not completely drained (Ref. Para.
R 2C).

(3) Remove lock-wire from sump fill port plug.

(4) Remove fill port plug.

(5) Discard O-ring on fill port plug.

(6) Fill oil sump with EXXON 2380 to base of sump fill port.

NOTE: Air cycle machines having Hamilton Standard P/N 733934 and 740900 with L28 stock numbers have been retrofitted with metal oil sumps. These units are equipped with liquid level sight plugs, which will have a solid amber color when the sump is properly filled to the required operational full level (Ref. Fig. 301).

R (7) Install new O-ring (Hamilton Standard PN 69494K903) on
R fill port plug.

R (8) Install fill port plug.

R (9) Torque fill port plug 15 to 25 lb in. above running
R torque.

R (10) Attach lock-wire to fill port plug. Route wire through
R warning tag support holes and connect wire to sump
R drain plug.

R (11) Close environmental control system (ECS) compartment
R door (117AL or 118CR as required).

R C. Water Contamination Check

R (1) On ACM units having plastic sumps,
R check for water contamination as follows:

R (a) Visually inspect for water content. Sumps having
R a water content exceeding one-half inch must be
R completely drained (Ref. Para. 2A) and not just
R topped off.

R (1) On ACM units having metal sumps,
R check for water contamination as follows:

R (a) Position a suitable clean container under oil sump
R drain plug, remove plug and drain approximately
R two ounces of oil from sump.

R (b) Visually inspect drained oil for evidence of
R water. If water is present, sump must be
R completely drained (Ref. Para. 2A) and not just
R topped off.

AUXILIARY POWER UNIT - OIL REPLENISHING

1. General

The APU lubricating oil supply is contained in an integral tank between APU accessory drive gearbox and engine compressor case. The tank has a total capacity of 2.3 US gallons (8.74 liters) of which approximately 2.0 US gallons (7.6 liters) is usable oil. A capped pressure oil fill housing and an oil level sightgage are located at the upper right part of the accessory gearbox case (Ref. Fig. 301).

On APU's equipped with a starter clutch, 4 oz. of the same type oil specified for use in the APU engine is contained in the sump area of the clutch. A dipstick type oil level indicator on the side of the clutch housing is used for checking the clutch sump oil level (Ref. Fig. 302).

Type I and Type II lubricating oils approved for use in the APU (and APU generator drive adapter) are listed in Table 301.

2. Equipment and Materials

Oil servicing cart, 15-gallon capacity with 35-foot filler hose

CR Lubricating oil, Exxon ETO 2380

CAUTION: OILS LISTED IN TABLE 301 ARE APPROVED FOR USE IN THE APU. OILS OF DIFFERENT BRANDS OR TYPES MUST NOT BE MIXED, AS THEY MAY BE INCOMPATIBLE. SHOULD DIFFERENT BRANDS OR TYPES BECOME MIXED, OR IF THE APU IS TO BE OPERATED WITH A DIFFERENT OIL THAN THAT BEING CURRENTLY USED, THE OIL SYSTEM MUST BE FLUSHED AND SERVICED WITH THE DESIRED APPROVED OIL.

Approved APU Lubricating Oils
Table 301

TYPE I OIL	TYPE II OIL
BP Aero Turbine Oil 15	BP Enerjet 51
Exxon (Esso) Turbo Oil 2389	Castrol 500
Mobil Avrex S Turbo 256	Texaco Sato 7730
Stauffer Jet I	Caltex, Sato 7730

Approved APU Lubricating Oils (Cont)
Table 301

TYPE I OIL	TYPE II OIL
R	Mobil RM 254
	Exxon (Esso) Turbo Oil 2380
R	Aero Shell Turbine Oil 555 (1)
	Mobil Jet Oil II
	Stauffer Jet II
	Aero Shell Turbine Oil 500

R NOTE: EXXON Turbo Oil 2389 and EXXON Turbo Oil 2380 may be
R designated as ESSO or ENCO Turbo Oil depending on the
R marketing area in which this product is procured.

R (1) Provided P&WC SB49-1 has been incorporated.

R NOTE: EXXON Turbo Oil 2389 and EXXON Turbo Oil 2380
R may be designated as ESSO or ENCO Turbo Oil
R depending on the marketing area in which this
R product is procured.

3. Servicing

A. Replenishing (APU Engine Oil)

NOTE: Check oil tank quantity 5 to 30 minutes after the APU is shut down. Observe warning placard attached to sight gage.

(1) Open the forward right APU access door (319BR).

(2) Observe oil level in the sight gage. When oil level is between FULL and LOW legends, the quantity required for replenishment to the full level is determined as follows:

R Oil Level Distance From the FULL mark	Oil Level (U.S. Quarts/Liters Low)
R 1.0 in. (2.54 cm)	1 qt (0.9l)

Oil Level Distance From the FULL mark	Oil Level (U.S. Quarts/Liters Low)
1.5 in. (3.8 cm)	2 qts (1.8l)
2.5 in. (6.3 cm)	3 qts (2.8l)
3.5 in. (8.9 cm)	4 qts (3.7l)

(3) Remove cap at oil pressure fill cap.

CAUTION: REPLENISH OIL TANK ONLY WITH THE SAME TYPE AND BRAND OF OIL CURRENTLY IN APU AND IDG ADAPTER. DO NOT MIX OILS OF OTHER BRANDS OR SPECIFICATIONS.

(4) Attach oil servicing cart hose.

(5) Replenish oil tank with required amount of oil.

(6) Remove fill hose, reinstall cap, and secure access panel (319BR), and close catcher assy on inlet scupper system.

B. Replenishing (APU Starter Clutch Oil)

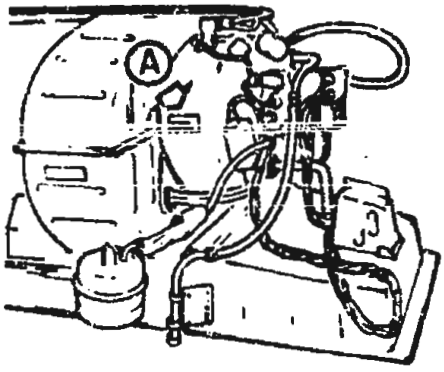
(1) Open forward left APU compartment access door.

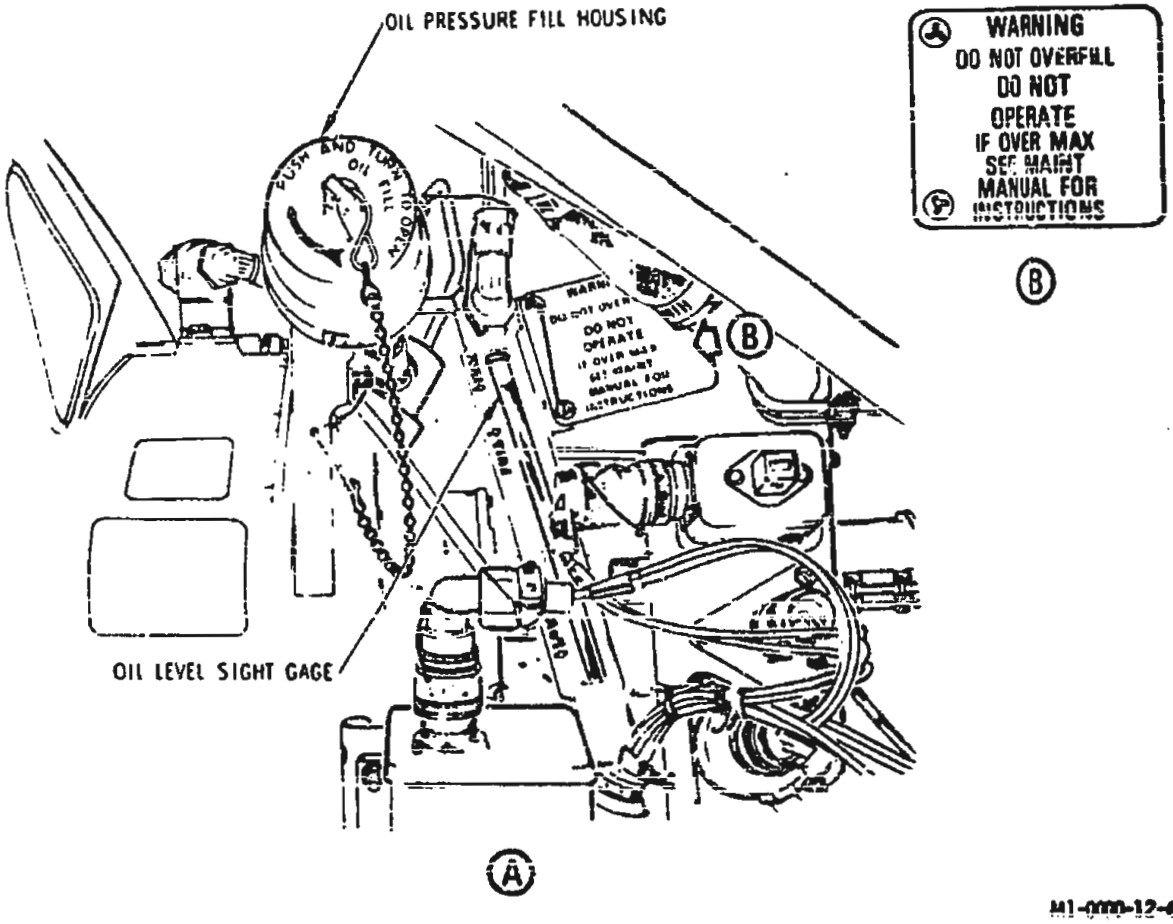
(2) Release spring clip retainer from oil quantity indicator and extract indicator from clutch housing. Read oil quantity level on indicator dipstick (Ref. Fig. 301).

(3) If oil quantity is low, replenish to full mark by pouring oil through dipstick bushing. Use same type oil specified for APU engine.

NOTE: On an installed APU, starter clutch oil quanity must be maintained at a level 1/16 to 1/8 inch above the hole in the indicator dipstick.

(4) Reinstall oil quantity indicator and snap spring clip into slot at top of indicator.





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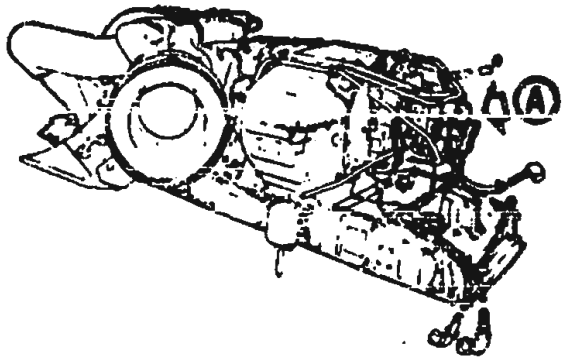
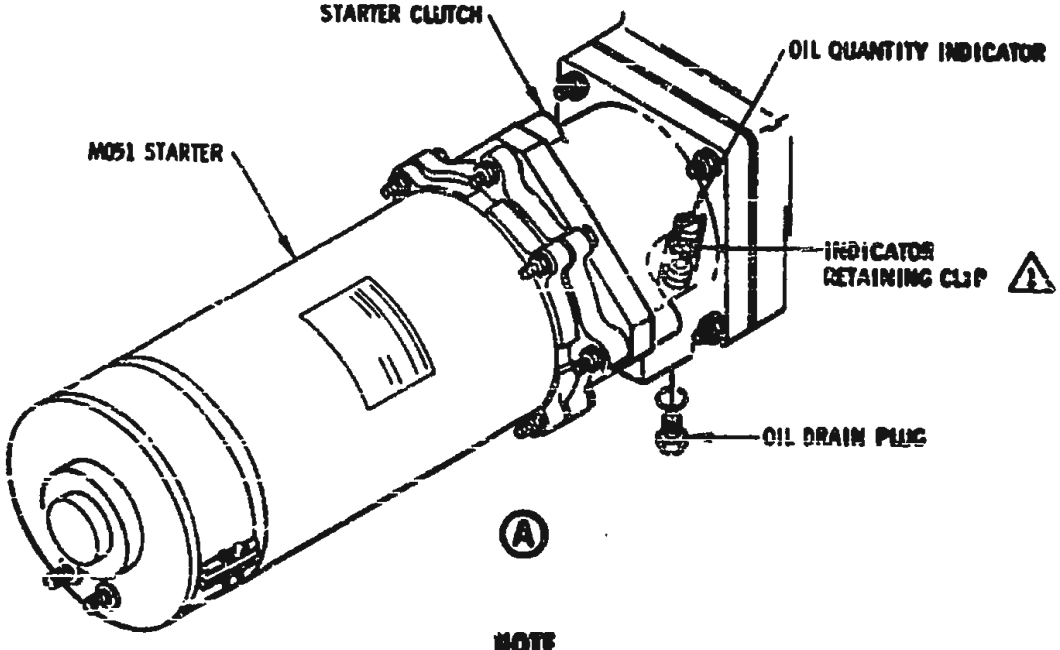
R Auxiliary Power Unit Oil Replenishing
R Figure 301

EFFECTIVITY: ALL

0018





NOTE

1 REPLENISH CLUTCH OIL SUPPLY THROUGH OIL QUANTITY INDICATOR BUSHING

M1-0100-99-018

R R APU Starter Clutch - Oil Replenishing
Figure 302

EFFECTIVITY: ALL

0018

AUXILIARY POWER UNIT GENERATOR ASSEMBLY - OIL REPLENISHING

1. General

The APU generator with adapter is located on the left-hand side of the APU, zone 319, forward of the No. 2 engine and below the S-duct (Ref. Fig. 301). The basic oil specifications are given in Table 301.

2. Equipment and Materials

O-Ring, Gravity Fill Plug, NAS1595-12

CR Oil replenishing by hand, use 1-quart can lubricating oil, Exxon
CR ETO 2380 with nozzle

Oil Servicing Cart Model 550 LPT, Loe Industries, or equivalent

Oil replenishing equipment with 40-micron (minimum) filter (for gravity filling only)

3. Servicing

A. Pressure Filling

(1) Remove pressure fill port cap on APU generator assembly (Ref. Fig. 301).

(2) Connect pressure fill cart hose fitting to APU generator assembly pressure fill port.

(3) Pressure fill APU generator assembly at approximately 25-30 psi using pressure fill cart.

NOTE: 25-30 psi is required to overcome the vent valve which is set at 11 psi.

CAUTION: DO NOT OVERFILL. EXCESS OIL WILL CAUSE OVERHEATING AND FOAMING WHICH CAN RESULT IN INTERNAL DAMAGE TO GENERATOR ADAPTER ASSEMBLY COMPONENTS.

OIL LEVEL READING ON SIGHT GAGE IS ONLY VALID WITH APU INSTALLED.

(4) Add oil until oil level as noted on oil level sight gage stabilizes between the bottom edge of the yellow

band and 1/2-inch below the bottom edge of the yellow band (Ref. Figure 301).

(5) Disconnect pressure fill hose and reinstall cap on pressure fill port.

NOTE: Proceed to Step 3A(9) if topping off oil level is all that is required.

(6) Run APU for 10 to 20 seconds to circulate oil through system.

(7) Shut down APU, wait at least one minute, then check oil level in generator assembly.

(8) Adjust oil level as necessary to maintain proper level as referenced in Figure 301.

NOTE: The height of the yellow band on the oil level sight gage is equal to 1 pint (0.47 liters).

The oil level should be replenished whenever the following conditions are observed:

(a) Hot - after operation if the oil level (with APU stopped), on the sight gage indicates a stabilized reading at or below the bottom of the yellow band (Ref. Figure 301).

(b) Cold - if the stabilized oil level (with APU stopped), is 1/2-inch or more below the lower edge of the sight gage yellow band (Ref. Figure 301).

(9) Check for oil leaks. Repair and recheck.

APU Generator Oil Specifications
Table 301

	CHARACTERISTIC/COMPONENT	SPECIFICATION/CAPACITY
CR	Oil Specification	Exxon ETO 2380
	Oil Capacity	4.5 U.S. Quarts
	Oil temperature operating range	25 to 225°F
	Overtemperature switch	Closes at 280°F (approx)
	Underpressure switch	closes at 150 psig

B. Gravity Filling

(1) Remove gravity fill plug (Ref. Fig. 301) and prepare to gravity-fill oil system using filtered oil handling equipment.

CAUTION: DO NOT OVERFILL. EXCESS OIL WILL CAUSE OVERHEATING AND FOAMING WHICH CAN RESULT IN INTERNAL DAMAGE TO GENERATOR AND ADAPTER COMPONENTS.

R OIL LEVEL READING ON SIGHT GAGE IS ONLY VALID WITH
R APU INSTALLED.

(2) Connect oil fill line to gravity fill port and fill with oil until the oil level as noted on oil level sight gage stabilizes from the bottom edge of the yellow band to 1/2-inch below the bottom edge of the yellow band. Initial fill will require approximately 4 quarts (3.78 liters).

(3) Disconnect oil fill line from adapter.

(4) Install gravity fill plug using new lubricated O-ring. Torque plug 20 to 30 lb in. and install lock-wire.

R NOTE: Proceed to Step 3B(6) if topping off oil is all
R that is required.

(5) Start APU (Ref. 49-00-01) and operate at rated speed for 10 to 20 seconds. Shut down APU and recheck stabilized oil level. The oil level shall be within the limits specified in Step (2). Replenish oil, if necessary.

NOTE: The height of the yellow band on the oil level sight gage is equal to 1 pint (0.47 liters).

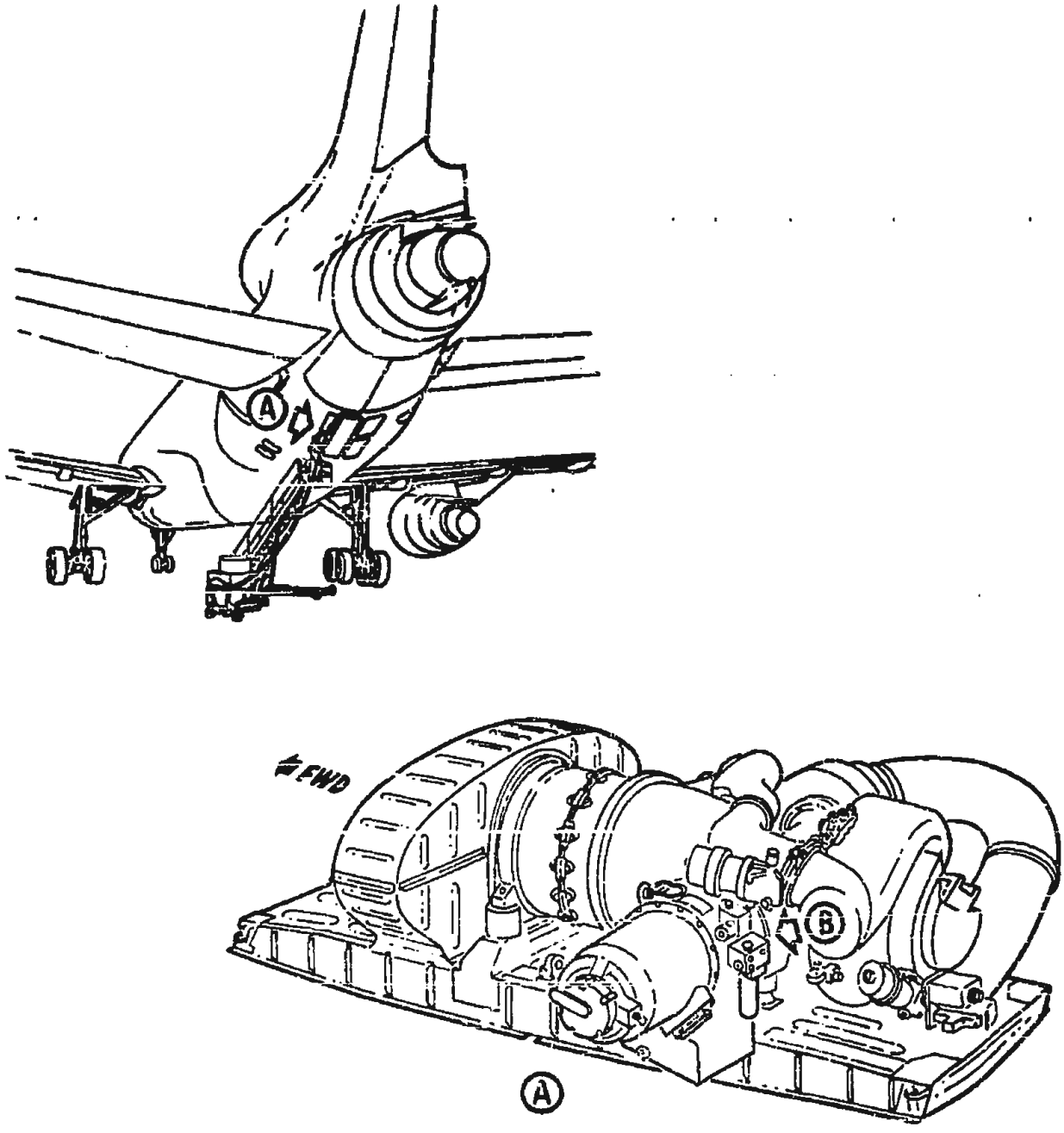
The oil level should be replenished whenever the following conditions are observed:

(a) Hot - after operation if the oil level (with APU stopped), on the sight gage indicates a stabilized reading at or below the bottom of the yellow band.

(b) Cold - if the stabilized oil level (with APU stopped), is 1/2-inch or more below the lower edge of the sight gage yellow band.

(6) Check for oil leaks. Repair and recheck.

(7) Close and secure access doors.



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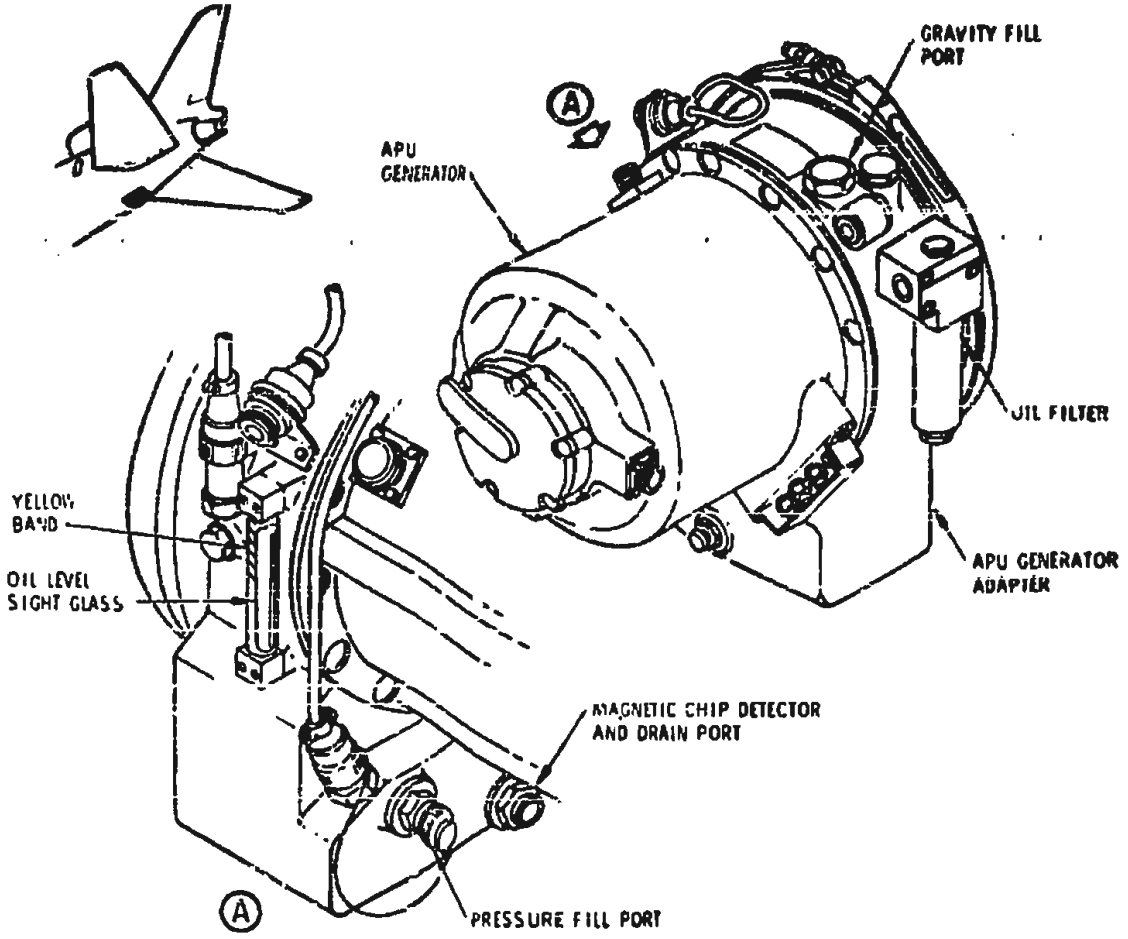
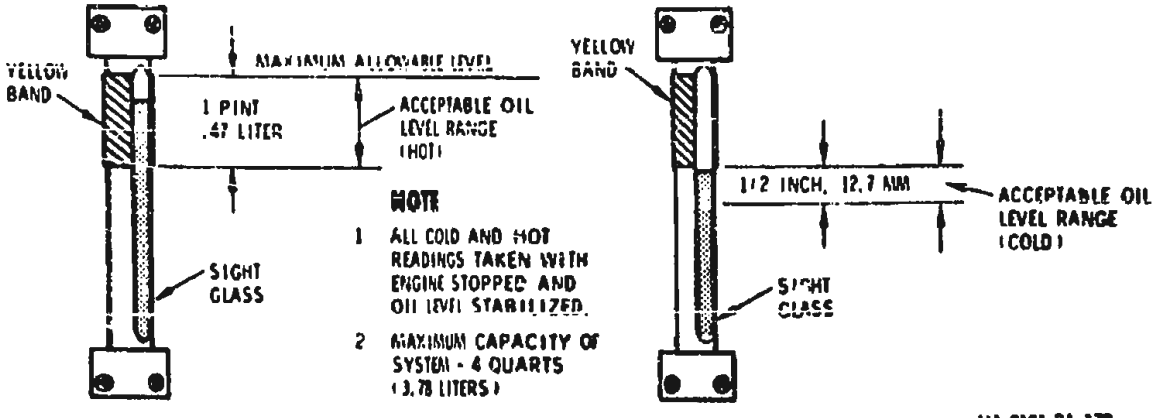
R
R APU Generator Adapter Oil Replenishing
Figure 301 (Sheet 1)

EFFECTIVITY: ALL

001B




YELLOW BAND
MAXIMUM ALLOWABLE LEVEL
1 PINT .47 LITER
ACCEPTABLE OIL LEVEL RANGE (HOT)
SIGHT GLASS
NOTE
1 ALL COLD AND HOT READINGS TAKEN WITH ENGINE STOPPED AND OIL LEVEL STABILIZED.
2 MAXIMUM CAPACITY OF SYSTEM - 4 QUARTS (3.78 LITERS)
YELLOW BAND
1/2 INCH, 12.7 MM
ACCEPTABLE OIL LEVEL RANGE (COLD)
SIGHT GLASS

SIGHT GLASS OIL LEVEL INDICATIONS

M1-0101-24-172

R APU Generator Adapter Oil Replenishing
R Figure 301 (Sheet 2)

EFFECTIVITY: ALL

0016

AIR TURBINE MOTOR (ATM) - SERVICING

1. Equipment and Materials

C Lubricating oil, Exxon 2380 Turbo Oil

R Acryloid Lubricant HF825, or equivalent

Lock-wire, MS20995NC32, Fed Spec QQ-W-390, or equivalent

O-ring, PN M83248-1-904, or equivalent

Plastic squeeze filler bottle

2. Referenced Procedure

29-11-39 Air Turbine Motors (ATM) - Maintenance Practices

3. Servicing

A. Replenishing

WARNING: RECENT OPERATION OF ATM WILL REQUIRE PRECAUTIONS AGAINST DANGEROUSLY HIGH AIR DUCT AND LUBE OIL TEMPERATURES. PROTECTIVE GLOVES SHOULD BE USED WHEN REQUIRED.

(1) Open access door 195E (System B ATM) or 196E (System C ATM).

(2) Remove fill port plug on gearbox top coverplate, or on alternate configuration, top plug above sight glass (Ref. Fig. 301).

NOTE: Remove outer fill plug only, second plug contains oil screen.

CAUTION: DO NOT USE OIL OF DIFFERENT TYPE OR BRAND. DO NOT OVERFILL OR DAMAGE MAY RESULT.

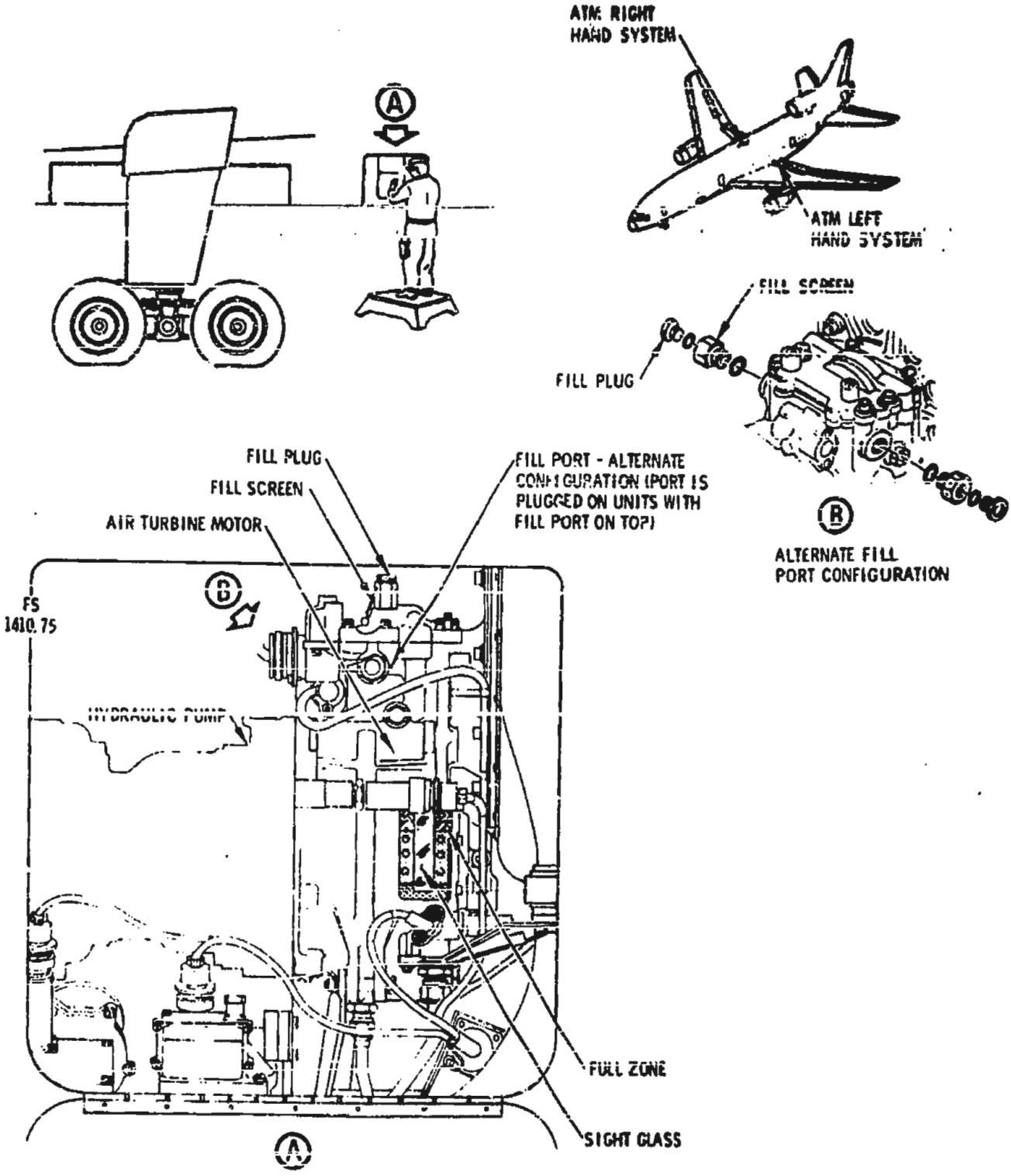
(3) Fill until the lube oil level is within the top 1/2 inch of the green area on the sight glass scale using
C plastic squeeze bottle. See Fig. 301. If oil level is above green band, excess oil must be drained out (Ref. 29-11-39).

C NOTE: Three different types of quantity indicators.

CAUTION: ACRYLOID LUBRICANT MUST BE USED TO INSTALL FILL PORT PLUG O-RING.

(4) Install new O-ring on fill port plugs. Reinstall fill port plugs, torque 40 to 55 lb-in., and lock-wire.

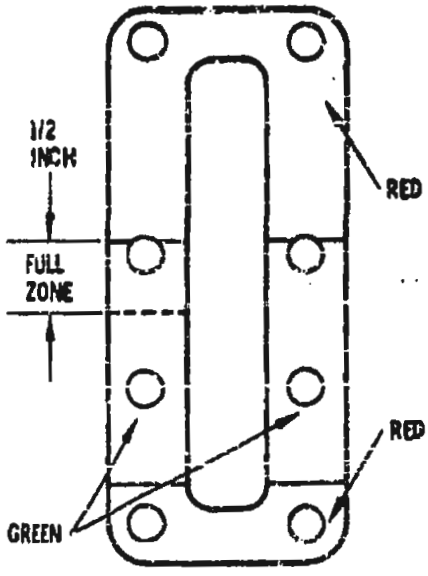
(5) Close and secure access door.



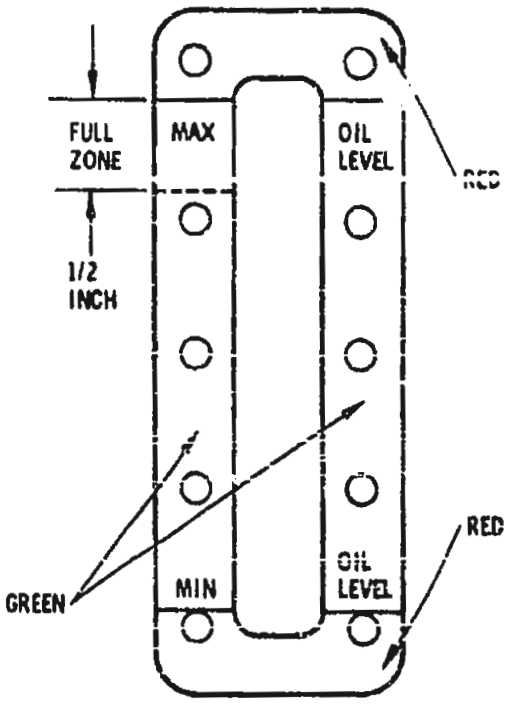
M1-0001-12-613

CR Air Turbine Motor (ATM) Oil Replenishing
CR Figure 301 (Sheet 1)

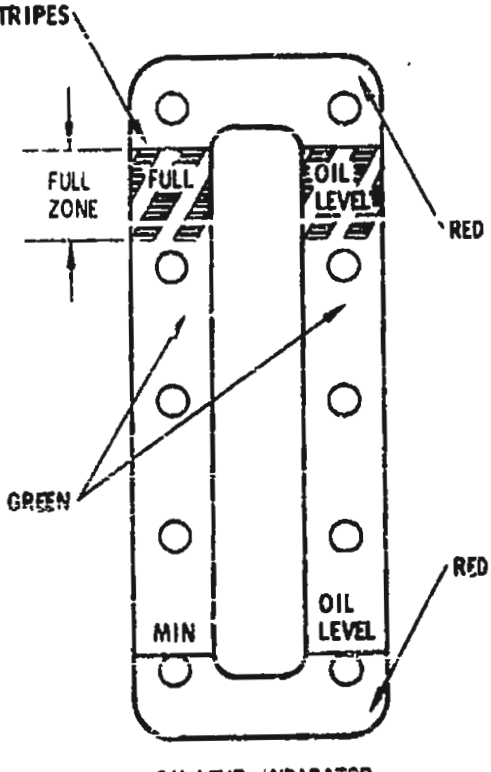
R EFFECTIVITY: ALL
R
001B



OIL LEVEL INDICATOR
PLATE 709110



OIL LEVEL INDICATOR
PLATE 712055



OIL LEVEL INDICATOR
PLATE 5000532

M1-0000-12-715

CR
CR

Air Turbine Motor (ATM) Oil Replenishing
Figure 301 (Sheet 2)

R EFFECTIVITY: ALL
R
0018

THRUST REVERSER AIR MOTOR - OIL REPLENISHING

1. Equipment and Materials

CR Mobile Jet Oil 254

Container, (1 Imp. pint, 1 U.S. pint, or 0.5 liter)

2. Servicing

A. Replenishing Oil System

(1) Remove left pylon fairing access panel (418DL/428DL/438AL).

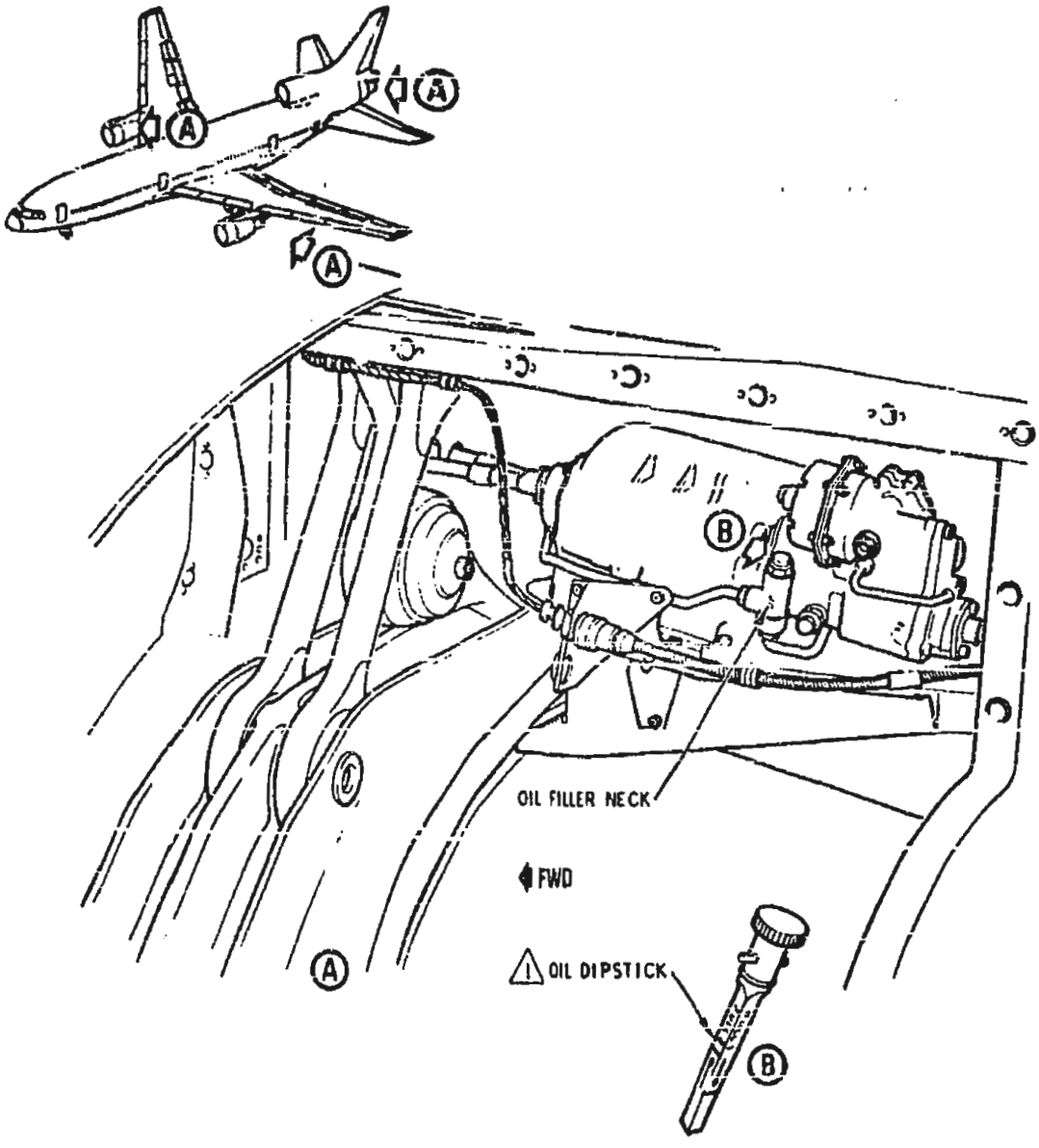
(2) Remove oil dipstick from oil filler neck. Wipe dipstick with clean cloth (Ref. Fig. 301).

(3) Insert dipstick in filler neck, push in and turn clockwise to lock. Remove dipstick and check oil level corresponding to engine position marked on dipstick.

(4) Add quantity of approved oil necessary to raise oil level to correct line (position marked on dipstick).

(5) Replace dipstick by pushing down and turning clockwise to engage bayonet fitting.

(6) Replace left pylon fairing access panel (418DL/428DL/438AL).



1 **NOTE**
FILL TO FULL LINE AS MARKED, FOR ENGINE BEING CHECKED. FULL 1 IS LEVEL LINE FOR ENGINE NO. 1; FULL 2 IS FOR ENGINE NO. 2; AND FULL 3 IS FOR ENGINE NO. 3.

26144
M1-0101-12-339

R Thrust Reverser Air Motor - Oil Replenishing
R Figure 301

HYDRAULIC SYSTEM REPLENISHING

R 1. General

R Hydraulic system replenishing procedures are contained in this
R section.

HYDRAULIC FLUID REPLENISHING - SERVICING

1. General

RESERVOIR SERVICING INSTRUCTIONS placards (Ref. Fig. 301) are mounted between the hydraulic reservoirs on each service center sidewall. The placards detail procedures required for the following: FLUID QUANTITY CHECK, FILL, AIR CHECK, AIR BLEED and OVERFILL DRAIN.

The hydraulic system must be pressurized to properly determine reservoir fluid level. The HYDRAULIC SERVICE PANEL (Ref. Fig. 3C2) contains placarded instructions and controls to pressurize the systems.

2. Equipment and Materials

Fluid Container (3-gallon plastic bucket)

Transparent flexible tubing (1/4-inch ID, 3 foot length)

R Hydraulic Fluid, Lockheed Spec C-34-1224C, or equivalent

C Refer to Chapter 29-00-00 for Fluid Equivalents.

Hydraulic Servicing Cart, Model 550LP, Loe Industries, or equivalent

Hydraulic Reservoir Service Adapter, P/N AE15458G, Aeroquip, or equivalent

3. Referenced Procedure

24-41-00 External Power/Ground Service System - Maintenance Practices

4. Servicing

WARNING: VERIFY THE FOLLOWING BEFORE PRESSURIZING ANY HYDRAULIC SYSTEM:

PITCH TRIM WHEEL IS AT ZERO DEGREES.

CR LANDING GEAR DOWNLOCK SAFETY PINS INSTALLED IF
CR REQUIRED PER GP&P 7-4-0 AND DOOR SAFETY DEVICES ARE
CR INSTALLED IF DOORS ARE OPEN AND WORK IS TO BE
CR PERFORMED IN WHEEL WELLS.

TRAVEL AREAS OF ALL FLIGHT CONTROL SURFACES AND MAIN GEAR DOORS ARE CLEAR OF PERSONNEL AND GROUND EQUIPMENT.

THE AFFECTED HYDRAULIC SYSTEMS CAN ACCEPT HYDRAULIC PRESSURE.

A. Hydraulic Servicing Dolly

(1) Connect hydraulic servicing dolly (Ref. Fig. 303).

(2) Turn on electrical power (Ref. 24-41-00).

(3) Follow the procedures shown on the RESERVOIR SERVICE INSTRUCTIONS placard, zone 147, and as shown on Figure 301, to perform the following:

Fluid Quantity Check

Fill

Air Check

Air Bleed

Overfill Drain

B. Hand Pump Operation (Reservoir Fill)

(1) Apply external electrical power (Ref. 24-41-00).

R WARNING: ENSURE THE RESERVOIR IS DEPRESSURIZED.

(2) Refer to Figure 304 for replenishing the reservoir with the hand-operated low-pressure pump.

(3) Observe system fluid temperature on service panel gage (Ref. Fig. 304).

(4) Turn reservoir dial to fluid temperature observed.

(5) Attach pressure hose quick disconnect to applicable system fitting on HYDRAULIC SYSTEM SERVICE PANEL and suction hose to reservoir service adapter.

(6) Place adapter in hydraulic fluid container and operate hand pump until needle on dial gage is slightly above FULL.

(7) Remove pressure hose quick disconnect from fitting on HYDRAULIC SYSTEM SERVICE PANEL.

(8) Pressurize hydraulic system in accordance with HYDRAULIC SERVICE PANEL instructions.

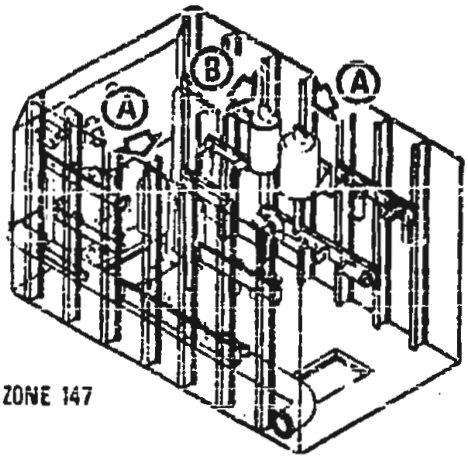
(9) Perform OVERFILL DRAIN in accordance with RESERVOIR SERVICE INSTRUCTION placard until needle is at FULL mark.

R 5. Allowable Dilution of Type IV Fluids

R Aircraft containing TYPE IV fluids can be replenished with TYPE II or III phosphate ester fluids but should not exceed amount of
R dilution which would reduce TYPE IV fluid ratios below 30%
R minimum or below recommended 50% if erosion resistant
R characteristics are to be maintained.

B. Operation

R Refer to Figure 305 for procedure to determine allowable
R TYPE IV fluid dilution. A prerequisite for using the chart
R is knowing the amount or percentage of TYPE IV fluid presently in the applicable system. This can only be determined from aircraft records or by obtaining a fluid analysis.



RESERVOIR SERVICE INSTRUCTIONS

NOTICE RESERVOIR GAGE WILL SHOW TRUE QUANTITY OF FLUID ONLY WHEN SYSTEM IS PRESSURIZED & DIAL SET AT FLUID TEMPERATURE

FLUID QUANTITY CHECK

- PRESSURIZE HYDRAULIC SYSTEM PER SERVICE PANEL INSTRUCTIONS
- OBSERVE SYSTEM FLUID TEMPERATURE ON SERVICE PANEL GAGE
- TURN RESERVOIR DIAL TO FLUID TEMPERATURE WHICH WAS OBSERVED
- IF DIAL NEEDLE IS: IN RED ZONE, - PERFORM FILL AS NOTED BELOW
  IN GREEN ZONE, - PERFORM AIR CHECK
  IN YELLOW ZONE, - PERFORM OVERFILL DRAIN

FILL

- CONNECT GROUND SERVICE CART TO SERVICE PANEL COUPLING
- PRESSURIZE HYDRAULIC SYSTEM PER SERVICE PANEL INSTRUCTIONS
- TURN RESERVOIR DIAL TO FLUID TEMPERATURE
- FILL AT ABOUT 1.0 GPM UNTIL RESERVOIR DIAL NEEDLE IS AT FULL

AIR CHECK

- PRESSURIZE HYDRAULIC SYSTEM PER SERVICE PANEL INSTRUCTIONS
- TURN RESERVOIR DIAL TO ALIGN LEFT DOT IN GREEN ZONE WITH NEEDLE
- WHILE OBSERVING DIAL OPERATE DEPRESSURIZATION VALVE AT BASE
  - IF ROTARY VALVE, TURN RAPIDLY 60° TO STOP & RELEASE
  - IF PUSH BUTTON VALVE, DEPRESS FULLY & RELEASE
- IF NEEDLE SWEEPS PAST ANOTHER DOT, PERFORM AIR BLEED BELOW

AIR BLEED

- CONNECT TRANSPARENT HOSE TO AIR BLEED VALVE NIPPLE
- PRESSURIZE HYDRAULIC SYSTEM PER SERVICE PANEL INSTRUCTIONS
- DEPRESS AIR BLEED VALVE BUTTON UNTIL FLUID IN HOSE RUNS CLEAR
- PERFORM AIR QUANTITY AND FLUID QUANTITY CHECKS

OVERFILL DRAIN

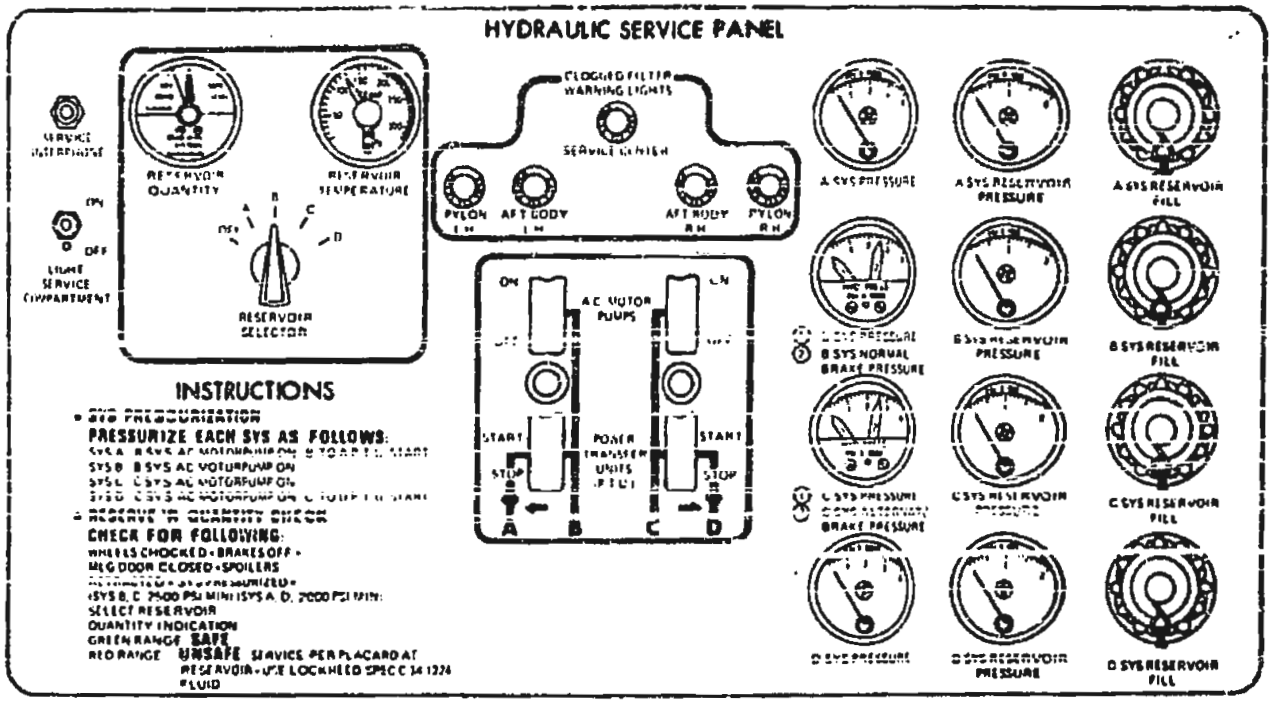
- SET RESERVOIR DIAL AT FLUID TEMPERATURE. PERFORM AIR BLEED EXCEPT DEPRESS BUTTON UNTIL GAGE NEEDLE IS AT FULL MARK

(A)

RESERVOIR SERVICE INSTRUCTIONS PLACARD (TYP 2 PLACES)

M1-0100-12-355

Hydraulic Reservoir Servicing Instruction Placard
Figure 301



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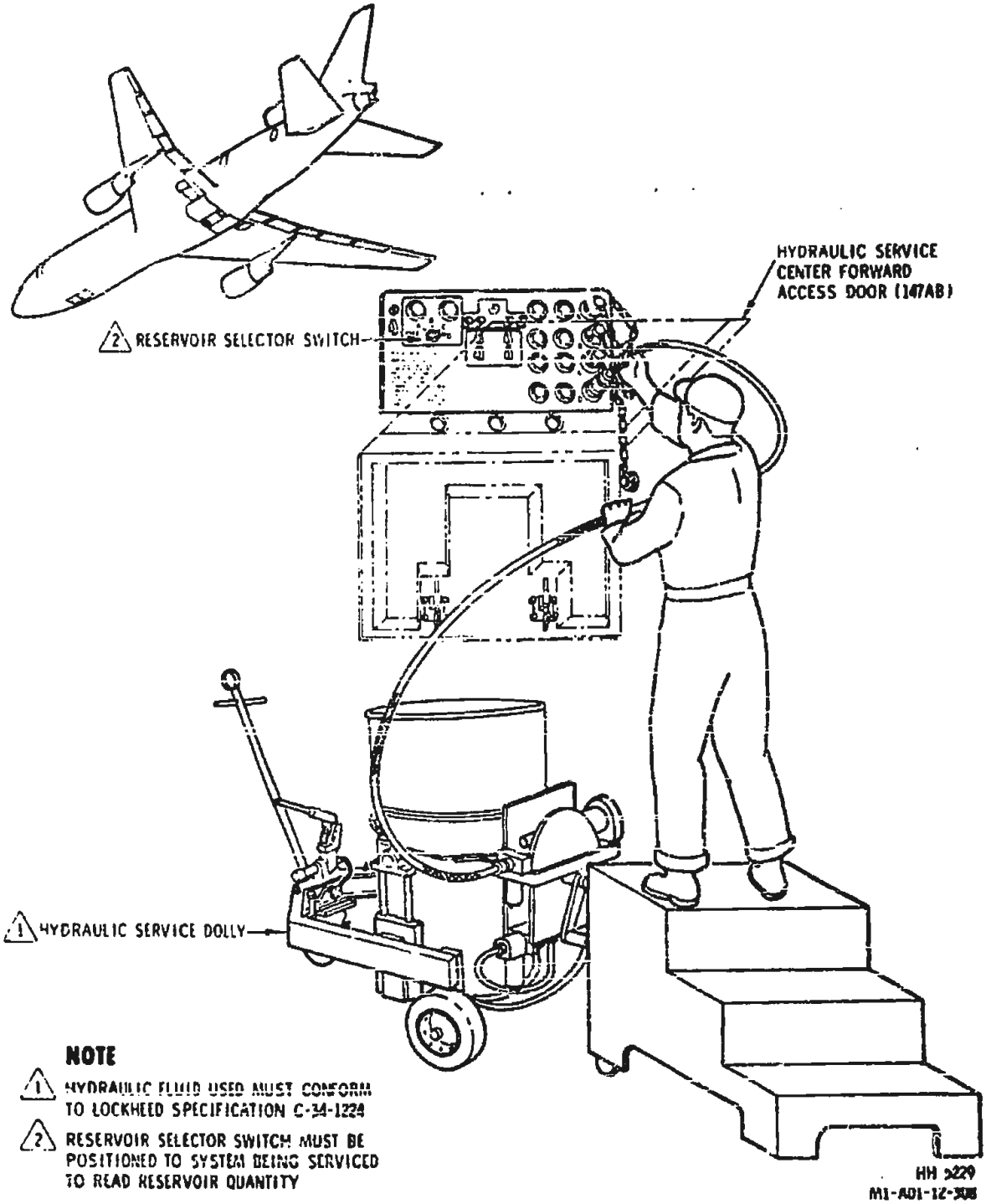
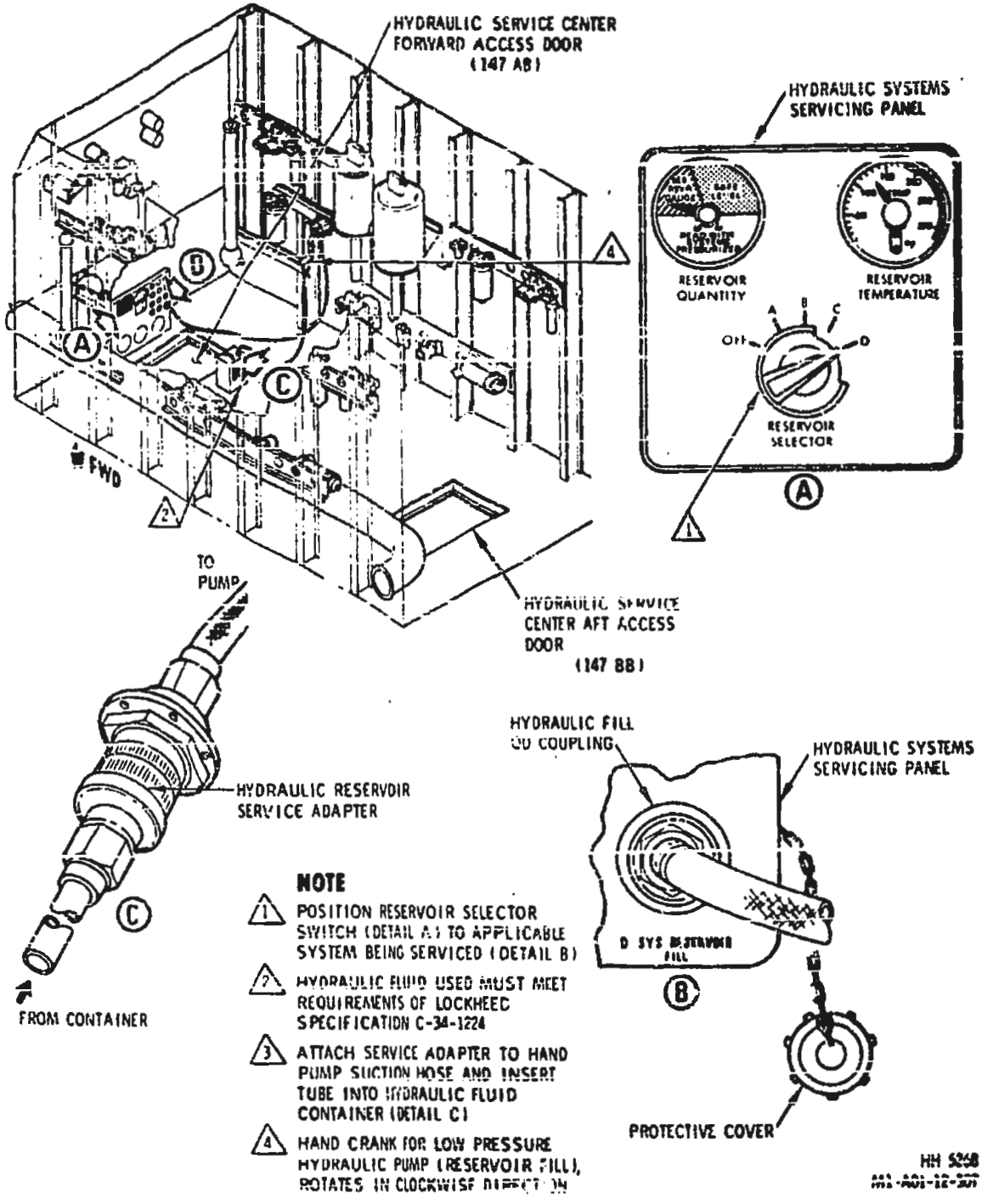
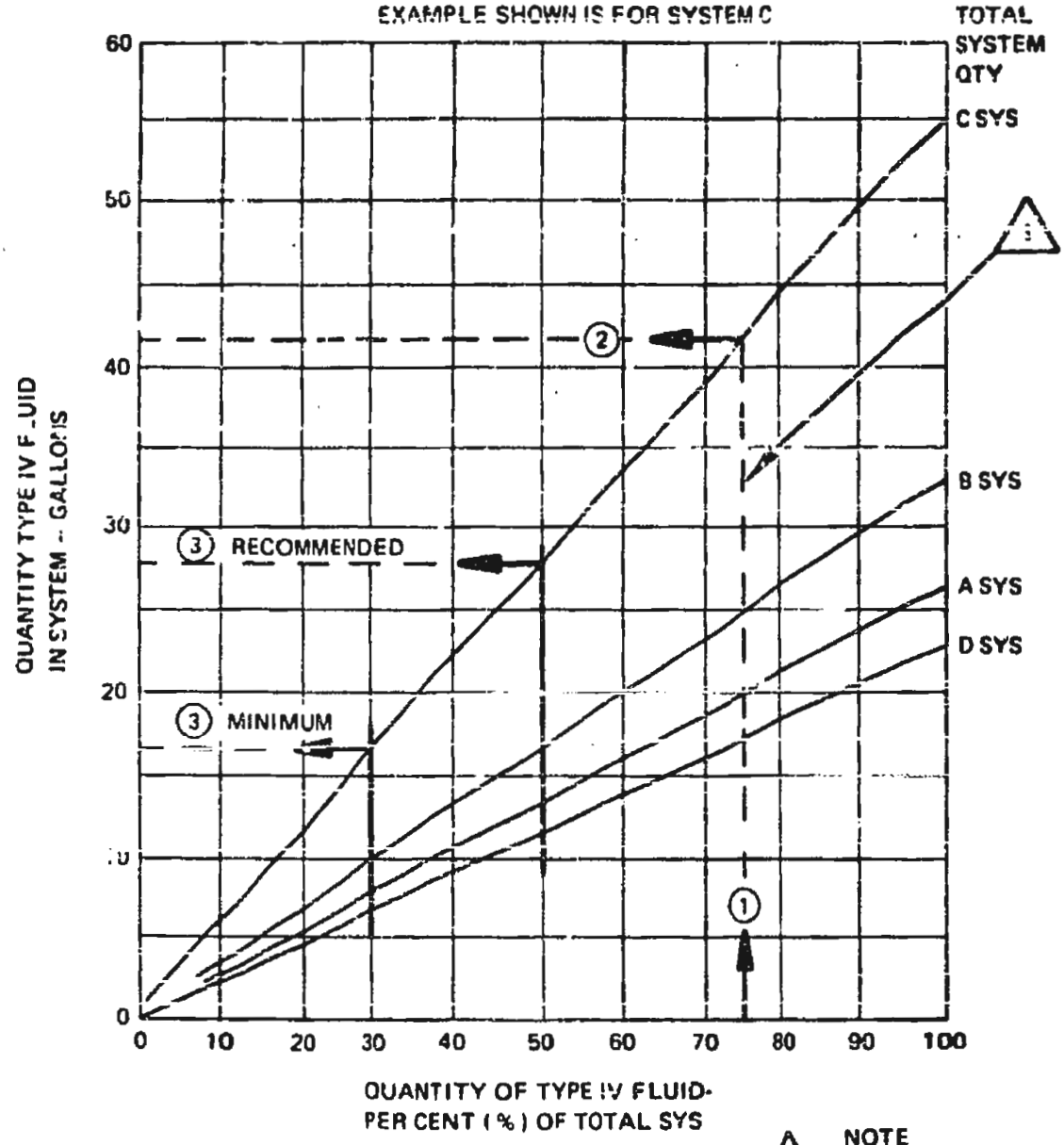
Hydraulic Service Panel
Figure 302


HYDRAULIC SERVICE CENTER FORWARD ACCESS DOOR (147AB)
2 RESERVOIR SELECTOR SWITCH
1 HYDRAULIC SERVICE DOLLY
NOTE
1 HYDRAULIC FLUID USED MUST CONFORM TO LOCKHEED SPECIFICATION C-34-1224
2 RESERVOIR SELECTOR SWITCH MUST BE POSITIONED TO SYSTEM BEING SERVICED TO READ RESERVOIR QUANTITY
HH 2229
M1-AD1-12-308

Reservoir Servicing (Using Hydraulic Servicing Dolly)
Figure 303


HYDRAULIC SERVICE CENTER FORWARD ACCESS DOOR (147 AB)
HYDRAULIC SYSTEMS SERVICING PANEL
RESERVOIR QUANTITY
RESERVOIR TEMPERATURE
OFF
A
B
C
D
RESERVOIR SELECTOR
FWD
TO PUMP
HYDRAULIC SERVICE CENTER AFT ACCESS DOOR (147 BB)
HYDRAULIC RESERVOIR SERVICE ADAPTER
FROM CONTAINER
HYDRAULIC FILL QD COUPLING
HYDRAULIC SYSTEMS SERVICING PANEL
PROTECTIVE COVER
NOTE
1 POSITION RESERVOIR SELECTOR SWITCH (DETAIL A) TO APPLICABLE SYSTEM BEING SERVICED (DETAIL B)
2 HYDRAULIC FLUID USED MUST MEET REQUIREMENTS OF LOCKHEED SPECIFICATION C-34-1224
3 ATTACH SERVICE ADAPTER TO HAND PUMP SUCTION HOSE AND INSERT TUBE INTO HYDRAULIC FLUID CONTAINER (DETAIL C)
4 HAND CRANK FOR LOW PRESSURE HYDRAULIC PUMP (RESERVOIR FILL), ROTATES IN CLOCKWISE DIRECTION
HH 5258

Reservoir Servicing (Using Hand Operated Pump)
Figure 304



1 NOTE
EXAMPLE SHOWN FOR SYSTEM C

TO DETERMINE ALLOWABLE DILUTION:

1. DETERMINE STARTING MIXTURE – % OF TYPE IV BY CHEMICAL FLUID ANALYSIS
2. DETERMINE QTY OF TYPE IV FLUID (GAL) IN SYSTEM
3. DETERMINE QTY REQUIRED FOR DESIRED MIX (GAL)
4. DETERMINE AMOUNT OF DILUTING FLUID TO BRING SYSTEM TO MIN QTY OF TYPE IV (2 MINUS 3)

MM-0001-12-395

Allowable Dilution of Type IV Fluid L-1011 Hydraulic Systems
Figure 305

HYDRAULIC SYSTEM - SERVICING

1. General

This procedure contains instructions for filling and bleeding a hydraulic system in which the hydraulic fluid level has been reduced to the extent that reservoir quantity cannot be determined.

R For hydraulic system flushing procedure see 29-11-00 Hydraulic
R Power System - Maintenance Practices.

R For cleaning the afterbody fluid drain line see 51-10-06
R Afterbody Compartment Fluid Drain Line - Inspection and Check.

2. Equipment and Materials

Lock-wire, Fed Spec QQ-W-390, 0.032-inch diameter, or equivalent

Hydraulic Test Stand, Electric Motor Driven, Sun Electric Corp., Part No. B784C, or equivalent

Container, one-quart capacity, or equivalent

Hydraulic Hose Support Assembly, Part No. BC64-101, or equivalent

3. Referenced Procedures

24-00-00	Electrical Power - Maintenance Practices
29-11-00	Hydraulic Power System - Maintenance Practices
29-21-00	Ram Air Turbine System - Maintenance Practices
32-43-00	Main Landing Gear Brake System - Maintenance Practices

4. Servicing

A. Filling

(1) Install ram air turbine (RAT) ground safety lock (Ref. 29-21-00).

(2) If main landing gear inboard doors are open, verify that inboard door actuator lock is installed.

(3) Verify that landing gear downlock safety pins are installed.

(4) Establish communications between flight station, hydraulic service center, and an outside position from which control surface movement can be observed.

(5) Open hydraulic service center access doors 147AB (fwd) and 147BB (aft) (Ref. Fig. 301).

(6) Remove protective caps and connect hydraulic test stand pressure and return hoses to applicable hydraulic system pressure and return ground service fittings. Use aft access door for hose entry.

(7) Install hose support assembly on aft access door sill.

(8) Attach hoses to support assembly to prevent excessive loads on ground service fittings.

(9) Verify that hydraulic system and brake accumulators are serviced with gas in accordance with placard instructions attached to the accumulators.

(10) Turn on electrical power (Ref. 24-00-00).

(11) Set test stand for a low flow rate.

(12) Gradually increase test stand pressure to approximately 500 psi.

NOTE: Hydraulic lines will begin to fill. As the lines become filled, a pressure increase will be indicated on the test stand pressure gage, on the Flight Engineer/Second Officers hydraulic system control panel PRESS gage, and on the hydraulic service center service panel HYD PRESS gage.

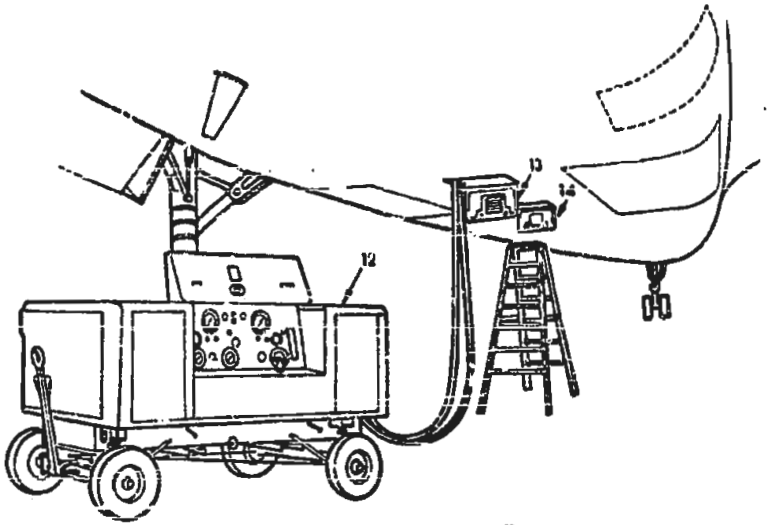
(13) Inspect system for leaks.

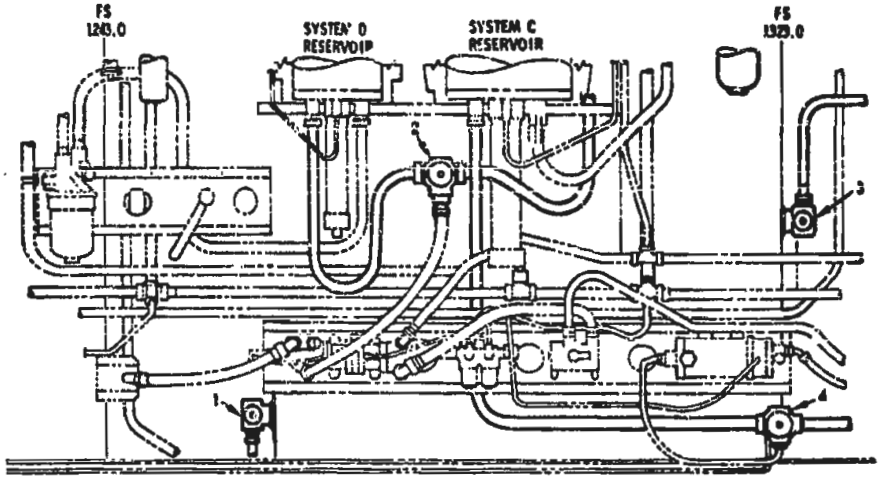
(14) Gradually increase pressure to 3000 psi making periodic pauses to inspect for leaks.

NOTE: The system reservoir remains empty.

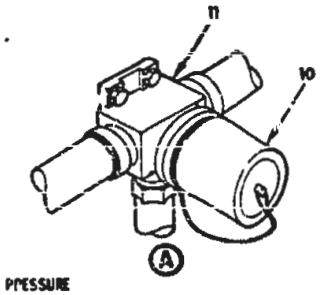
(15) Bleed system reservoir until fluid returning to test stand is clear of air (Ref. 29-11-00).

(16) For hydraulic system A filling, set test stand pressure for 3000 psi and slowly operate the following:



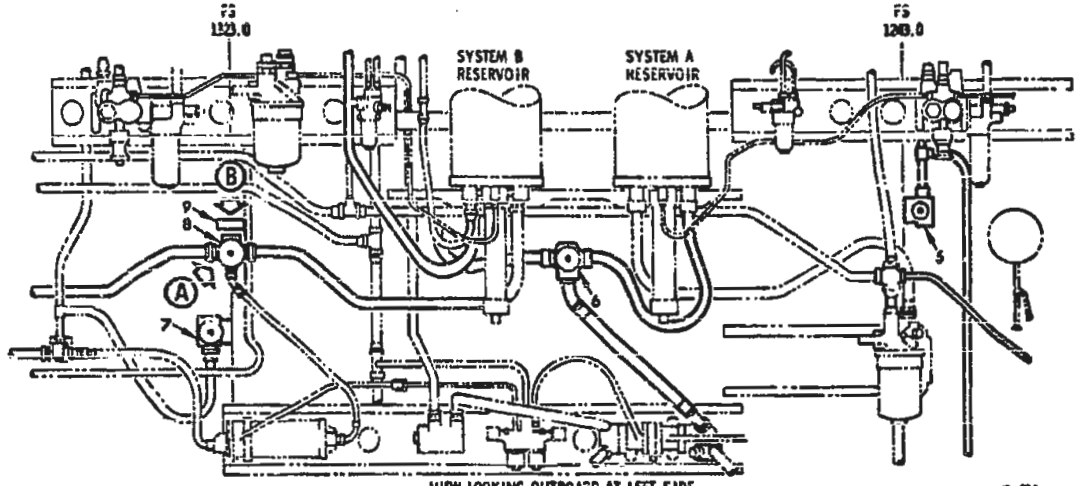


VIEW LOOKING OUTBOARD AT RIGHT SIDE



GROUND SERVICE-SYS B
RETURN - 85PSI
USE FLUID PER LOCKHEED SPEC
C-34-1224 TYPE II OR III
B

1 GROUND SERVICE FITTING, SYS D PRESSURE
2 GROUND SERVICE FITTING, SYS D RETURN
3 GROUND SERVICE FITTING, SYS C PRESSURE
4 GROUND SERVICE FITTING, SYS C RETURN
5 GROUND SERVICE FITTING, SYS A PRESSURE
6 GROUND SERVICE FITTING, SYS A RETURN
7 GROUND SERVICE FITTING, SYS B PRESSURE
8 GROUND SERVICE FITTING, SYS B RETURN
9 GROUND SERVICE CONNECTION PLACARD (TYPICAL 8 PLACES)
10 PROTECTIVE CAP
11 GROUND SERVICE FITTING (TYPICAL)
12 HYDRAULIC GROUND TEST CART (3000 PSI, 40 GPM)
13 HYDRAULIC SERVICE CENTER AFT ACCESS DOOR (147BB)
14 HYDRAULIC SERVICE CENTER FORWARD ACCESS DOOR (147AB)



VIEW LOOKING OUTBOARD AT LEFT SIDE

G
M1-0100-29-135

HYDRAULIC SERVICE CENTER

R Hydraulic Test Stand Operation
R Figure 301

R EFFECTIVITY: ALL
R
001B

(a) On pilots overhead PFCS panel, depress RUDDER to OFF; STABILIZER A, B, C, D to INOP; AILERON L OUTBD, L INBD, R INBD, R OUTBD to OFF; and SPOILER L5&6, L&R4, L&R1, L&R2, L&R3, R5&6 to OFF.

(b) Operate flaps and slats two cycles (Ref. 27-51-00).

(c) Turn on switch lights turned off in Step (a).

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, RUDDER MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(d) Operate rudder 10 full cycles at a rate not faster than four seconds stop-to-stop (Ref. 27-21-00).

(e) Operate stabilizer five full cycles (Ref. 27-41-00).

(f) Operate speed brake lever five full cycles to actuate No. 2 left spoiler panel (Ref. 27-61-00).

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, AILERONS MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(g) Operate ailerons five full cycles at a rate not faster than four seconds stop-to-stop (Ref. 27-11-00).

(h) Monitor the test stand sight gage. If air is present, turn off hydraulic pressure for five minutes. Repeat Steps (a) through (g) until reservoir air check is within limits in accordance with reservoir placard instructions.

(17) For hydraulic system B, set test stand pressure for 3000 psi and slowly operate the following:

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, RUDDER MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(a) Operate rudder 10 full cycles at a rate not faster than four seconds stop-to-stop (27-21-00).

(b) Operate stabilizer five full cycles (Ref. 27-41-00).

(c) Operate spoilers panels five full cycles (Ref. 27-61-00).

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, AILERONS MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(d) Operate ailerons five full cycles at a rate not faster than four seconds stop-to-stop (Ref. 27-11-00).

(e) Monitor the test stand sight gage. If air is present, turn off hydraulic pressure for five minutes. Repeat Steps (a) through (d) until reservoir air check is within limits in accordance with reservoir placard instructions.

(18) For hydraulic system C, set test stand pressure for 3000 psi and slowly operate the following:

(a) On pilots overhead PFCS panel, depress RUDDER to OFF; STABILIZER A, B, C, D to INOP; AILERON L OUTBD, L INBD, R INBD, R OUTBD to OFF; and SPOILER L5&6, L&R4, L&R1, L&R2, L&R3, R5&6 to OFF.

(b) Operate flaps and slats two cycles (Ref. 27-51-00).

(c) Turn on switchlight turned off in Step (a).

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, RUDDER MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(d) Operate rudder 10 full cycles at a rate not faster than four seconds stop-to-stop (Ref. 27-21-00).

(e) Operate stabilizer five full cycles (Ref. 27-41-00).

(f) Operate spoilers five full cycles (Ref. 27-61-00).

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, AILERONS MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(g) Operate ailerons five full cycles at a rate not faster than four seconds stop-to-stop (Ref. 27-11-00).

(h) Monitor the test stand sight gage. If air is present, turn off hydraulic pressure for five minutes. Repeat Steps (a) through (g) until reservoir air check is within limits in accordance with reservoir placard instructions.

(19) For hydraulic system D, set test stand pressure for 3000 psi and slowly operate the following:

(a) Operate stabilizer five full cycles (Ref. 27-41-00).

(b) Operate spoilers five full cycles (Ref. 27-61-00).

CAUTION: TO PREVENT OVERHEATING AND OVERPRESSURIZING CONTROL SURFACE DAMPERS, AILERONS MUST BE CYCLED SLOWLY (FOUR SECONDS MINIMUM STOP-TO-STOP).

(c) Operate ailerons five full cycles at a rate not faster than four seconds stop-to-stop (Ref. 27-11-00).

(d) Monitor the test stand sight gage. If air is present, turn off hydraulic pressure for five minutes. Repeat Steps (a) through (c) until reservoir air check is within limits in accordance with reservoir placard instructions.

B. Bleeding

(1) Main Landing Gear Brake System

(a) Bleed normal and alternate brake systems (Ref. 32-43-00).

R (2) Right Inboard Aileron Servo Static Cavity (for systems B, C, or D)

(a) Open bleed fitting (Ref. Fig. 302).

(b) Attach plastic hose to bleed fitting and lead to container.

WARNING: VERIFY THE FOLLOWING BEFORE PRESSURIZING ANY HYDRAULIC SYSTEM:

LANDING GEAR DOWNLOCK SAFETY PINS AND DOOR SAFETY DEVICES ARE INSTALLED.

PERSONNEL AND GROUND EQUIPMENT ARE CLEAR OF ALL FLIGHT CONTROL SURFACES AND GEAR DOOR TRAVEL AREAS.

THE AFFECTED HYDRAULIC SYSTEMS CAN ACCEPT HYDRAULIC PRESSURE.

(c) Pressurize hydraulic systems B, C, and D (Ref. 29-11-00).

(d) Monitor fluid flow into container while operating ailerons. Continue procedure until fluid flow is clear of air.

(e) Close bleed fitting torque 40 to 50 lb in., and safety with lock-wire.

(f) Turn off hydraulic pressure (Ref. 29-11-00).

(3) Hydraulic System Bleeding

(a) Perform hydraulic system bleeding as applicable (Ref. 29-11-00).

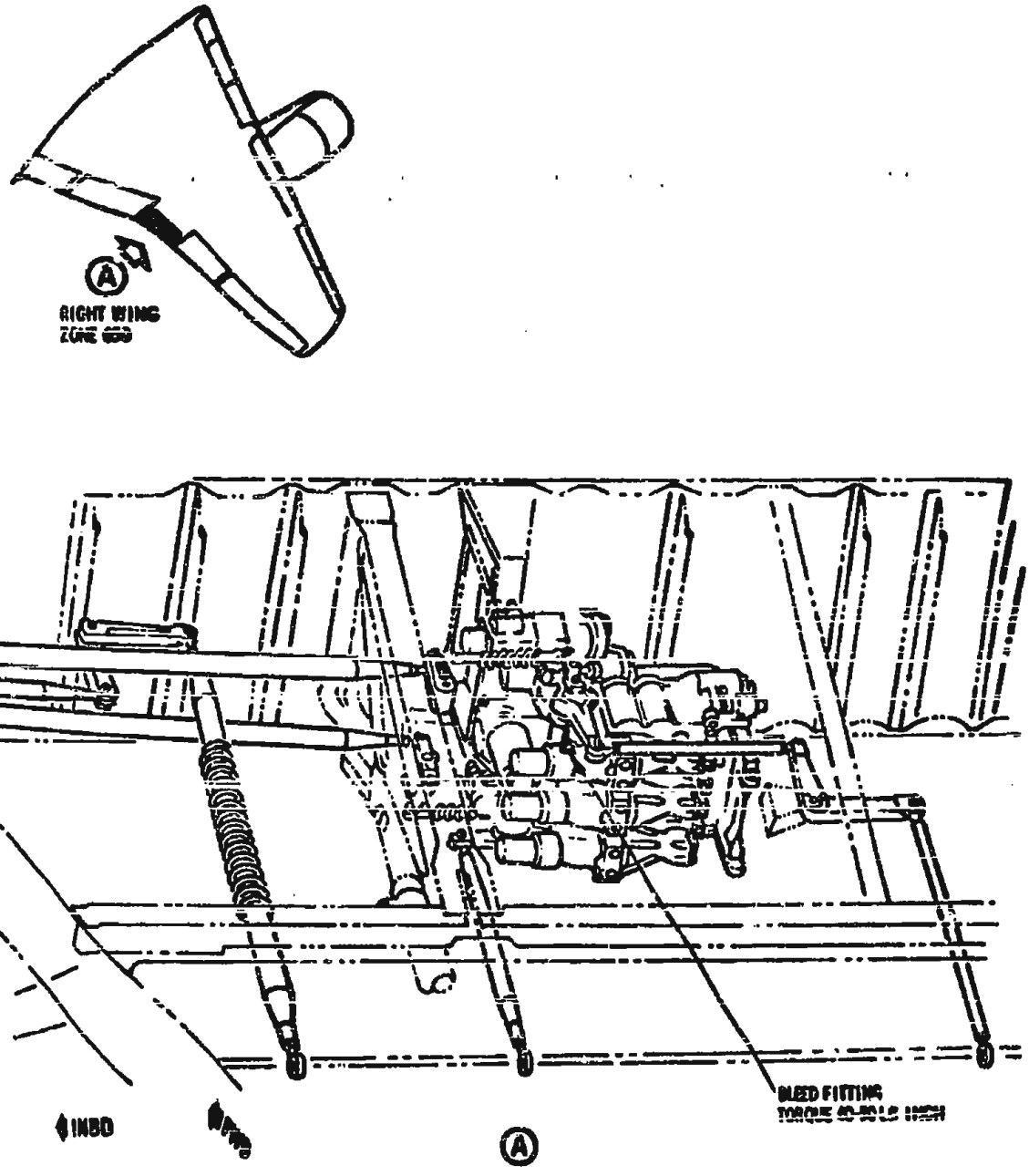
(4) Remove RAT ground safety lock as required (Ref. 29-21-00).

(5) Disconnect test stand hoses and remove hose support assembly.

(6) Install protective caps on ground service fittings.

(7) Close hydraulic service center access doors.

(8) Turn off electrical power (Ref. 24-00-00).



R R Right Inboard Aileron Servo Control Module
Figure 302

R R EFFECTIVITY: ALL

0018

GASEOUS REPLENISHING

1. General

Gaseous replenishing procedures are contained in this section.

CR 2. High and Low Pressure Air/Nitrogen Servicing Valves

CR A. As a personnel safety feature, TWA currently uses 2 different air/nitrogen servicing (Schrader) valves. The valve installed in systems or components using pressures over 250 psig is equipped with a large, threaded adapter bonded on the threaded stem (servicing fitting) of the Schrader valve. The valve installed in systems or components using pressures under 250 psig has no threaded adapter. The threaded stem on this valve is the same thread size as a standard tire valve stem.

CR B. The valve with threaded adapter for use in high pressure system is TWA Stk. Nbr. 88-0150. The valve without threaded adapter for use in low pressure systems is TWA Stk. Nbr 88-4035.

CR CAUTION: THE ABOVE VALVES MAY BE MARKED FOR SKYDROL SERVICE ON THE VENDOR'S NAMEPLATE. HOWEVER, EITHER VALVE MAY BE USED IN EITHER RED OIL OR SKYDROL SYSTEMS. THE MARKINGS ON THE VALVE MUST NOT BE USED TO DETERMINE WHAT TYPE OF FLUID TO USE IN SERVICING A SYSTEM. WHEN IN DOUBT, REFER TO CHAPTER 12 OF THE MAINTENANCE MANUAL FOR CORRECT FLUID CALLOUT.

CR 3. High Pressure Air/Nitrogen Servicing Valves

CR A. For safety reasons, each high pressure air/nitrogen (Schrader) valve is provided with a 7/16" diameter threaded adapter. Should it become necessary to check these high pressure valves for the presence of an adapter the following is a list of locations where this high pressure valve is used.

APPLICATION	LOCATION	QTY.
Hyd. reservoir aux pressurization accumulators (4 each)	Hyd. service center, LH side (Access doors 147 AB and 147BB)	2
	Hyd. service center, RH side (Access doors 147 AB and 147BB)	2
Ram Air Turbine pressurization accumulator	Hyd. service center, LH side (Access doors 147 AB and 147 BB)	1

APPLICATION	LOCATION	QTY.
MLG & NG Struts	Top of each oleo strut	3
Brake Accumulator (200 cubic inch)	Hyd. Service Center	1
Brake Accumulator (707 cubic inch)	Hyd. Service Center (Access door 147 AB & 147 BB)	1

TIRE INFLATION

1. Equipment and Materials

C Pressure-regulated dry nitrogen.

C CAUTION: INFLATION TO FULL PRESSURE USING AIR FOR SERVICE USE
C IS PROHIBITED. SHOP AND LINE FACILITIES MUST USE
C NITROGEN IN TIRES DELIVERED TO THE AIRCRAFT. IF
C DIFFICULTIES ARISE ON THE SUPPLY OF NITROGEN, NOTIFY
C ENGINEERING.

C WARNING: TO PREVENT SERIOUS INJURY WHEN USING PRESSURE
C SERVICING CART FOR TIRE INFLATION USE LOW PRESSURE
C NITROGEN ONLY. HOSE MUST BE CONNECTED TO FITTING
C MARKED LOW PRESSURE.

C NOTE: Use pressure gage RR 90126.

2. Servicing

C A. Main Landing gear and Nose Landing gear tire pressures

C TWA will not adjust tire pressure in accordance with gross
C weight for in-service operation. The fixed tire pressures
C for in-service operation are as follows:

	OPERATION	TIRE	TIRE SIZE	TIRE PRESSURE
CR	Domestic	NLG	37x13-16/26PR	175 ± 5 PSI
CR		MLG	50x20-20/34PR	200 ± 5 PSI
CR	International	NLG	37x13-16/26PR	175 ± 5 PSI
CR		MLG	52x20.5-20/36PR	200 ± 5 PSI

C NOTE: Any tire in service that is found to have lost 20%
C of its normal pressure may be damaged and must be
C removed from service and examined carefully inside
C and outside. This critical pressure is as follows:

AIRCRAFT	TIRE	NORM PRESS	CRIT PRESS
L1011-100/-50	MAIN	200	160
L1011-100/-50/-1	NOSE	175	140
L1011-1	MAIN	200	160

NOTE: Do not deflate warm tires. Reference GPP Chapters 1 and 7 for warm tire inflation guidelines.

3. Flat Tire Policy

A. When a flat or seriously low tire is changed on the L-1011 main gear, the adjacent or mating tire which is on the same axle must also be changed.

NOTE: A flat or seriously low tire is defined as one which has only 130 PSI or less in it.

CREW OXYGEN - SERVICING

1. General

The crew oxygen system low-pressure supply cylinder is located in the flight station, aft of the First Officer, zone 212.

Servicing consists of replacing the expended crew cylinder with a fully charged cylinder. The cylinder weighs approximately 45 pounds and has a capacity of 114 cubic feet of free oxygen compressed to 1800 ± 50 psig at 70 degrees Fahrenheit.

R The crew cylinder is equipped with a direct reading pressure
R gage connected to the cylinder pressure reducer shutoff valve.
R By opening the valve, oxygen flows to the pressure reducer which
R decreases the pressure to an outlet pressure of 50 - 90 psig. A relief fitting is line connected to the overboard discharge port. If pressure exceeds 2650 psig, the frangible disc in the relief fitting will rupture allowing oxygen to discharge overboard through the discharge port.

A crew portable oxygen unit is stored in a rack left of the second observers seat, zone 211.

2. Equipment and Materials

Oxygen System Leak Detection

Compound, MIL-L-25567, or equivalent

C Crew Fixed Oxygen Cylinder - RR12298

C Cockpit Portable Oxygen Cylinder - RR12293

C Cabin Portable Oxygen Cylinder (12 per plane) - RR12155

C Crew Demand Regulator (5 per plane) - RR15403

C Crew Pressure Reducer - TWA Stk. Nbr. 296-5021

R Packaged clean caps, plugs, and bags (for open parts and lines)

3. Safety and Operating Precautions

WARNING: OXYGEN CYLINDERS ARE TO BE SERVICED BY AUTHORIZED PERSONNEL ONLY.

R ENSURE THAT AIRCRAFT IS PROPERLY GROUNDED AND THAT ADEQUATE VENTILATION IS PROVIDED TO PREVENT POSSIBLE HIGH CONCENTRATION OF OXYGEN.

R ENSURE SERVICE EQUIPMENT AND TOOLS ARE FREE OF DIRT, OIL, OR GREASE.

DO NOT CONTAMINATE THE OXYGEN SYSTEM OR ANY COMPONENT WITH GREASE OR OIL. DO NOT BUMP, SCRATCH OR DENT THE OXYGEN CYLINDER.

R ALL OPEN CONNECTIONS MUST BE PROTECTED FROM ANY CONTAMINATION BY INSTALLING CLEAN CAPS, PLUGS, OR BAGS.

4. General Servicing Practices

R Inspection of the crew oxygen system is required if the cylinder overboard discharge port disc is displaced or missing. Check oxygen cylinder pressure gage for a pressure of 1800 ± 50 psig at 70 degrees F. Replace cylinder if below required pressure for flight plan. Replace disc (Ref. 35-11-07). Note that for each 2 degree increase or decrease in temperature, the pressure varies accordingly by between 9 and 10 psig throughout the range.

R 5. Crew Oxygen System Servicing

CR WARNING: IF PASSENGERS AND/OR CREWMEMBERS ARE ON BOARD THE AIRCRAFT DURING AN OXYGEN BOTTLE REPLACEMENT (OTHER THAN PORTABLE OXYGEN BOTTLES), ENSURE THAT THE EMERGENCY LIGHT CONTROL SWITCH IN THE COCKPIT IS IN THE "ARM" POSITION.

R A. Remove Cylinder

R WARNING: SHUTOFF VALVE MUST BE CLOSED SLOWLY TO AVOID POSSIBLE FIRE AND EXPLOSION DUE TO FRICTION HEATING OF OXYGEN.

R CAUTION: CLOSE SHUTOFF VALVE FINGER-TIGHT ONLY TO AVOID DAMAGING THE VALVE SEAT.

(1) Turn off crew oxygen by closing shutoff valve on oxygen cylinder located outboard and aft of First Officer, zone 212.

(2) Place any OXYGEN REGULATOR panel control toggle switches in EMERGENCY position until oxygen flow ceases, then return to NORMAL (Ref. Fig. 301).

(3) Remove pressure regulator and overboard discharge line from oxygen cylinder valve.

(4) Use clean caps and plugs to seal all openings to prevent contaminants from entering oxygen system.

(5) Remove safety pin from oxygen cylinder quick-disconnect retaining strap and open strap handle to release strap. Remove cylinder.

B. Install Cylinder

(1) Place oxygen cylinder in position and fasten with retaining strap. Insert safety pin in strap quick-disconnect.

(2) Remove caps and plugs and any contaminants from oxygen cylinder fittings and oxygen line connections.

(3) Connect the pressure regulator and the overboard discharge line to the oxygen cylinder valve.

WARNING: SHUTOFF VALVE MUST BE OPENED SLOWLY TO PREVENT FRICTION HEAT THAT MIGHT CAUSE FIRE.

(4) Slowly open shutoff valve on oxygen cylinder.

(a) Before opening valve on oxygen cylinder, assure all five demand regulators in cockpit have the right hand supply toggle in OFF position and left hand toggle in NORMAL position. Position of the center toggle need not be checked.

WARNING: ONLY AUTHORIZED OXYGEN LEAK DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN SYSTEM OR COMPONENTS.

CAUTION: NEVER TIGHTEN CONNECTOR FITTINGS WITH SYSTEM PRESSURIZED.

(5) Use leak detection compound on all oxygen line connections to inspect for leaks. Tighten and retest all leaking connections.

CR (6) Return aircraft to normal.

C. Check Crew Cylinder Installation and System Pressure

(1) Inspect crew oxygen cylinder for physical damage.
R Replace if dented or deeply scratched. Verify
R hydrostatic test date on replacement cylinder has not
R expired.

R (2) Check that oxygen cylinder retaining strap and support
R assembly are secure (Ref. Fig. 301). (Ref. Fig. 303).

R (3) Slowly turn oxygen cylinder shutoff valve to on
R position.

WARNING: ONLY AUTHORIZED OXYGEN LEAK DETECTION COMPOUNDS MAY BE USED FOR TESTS. CLEAN AND DRY ALL CONNECTIONS IMMEDIATELY AFTER TESTING. DO NOT ALLOW LEAK DETECTION COMPOUND TO ENTER OXYGEN
R SYSTEM OR COMPONENTS.

R CAUTION: NEVER TIGHTEN CONNECTOR FITTINGS WITH SYSTEM
R PRESSURIZED.

(4) Use leak detection compound on all connections to inspect for leaks. Tighten and retest all leaking connections.

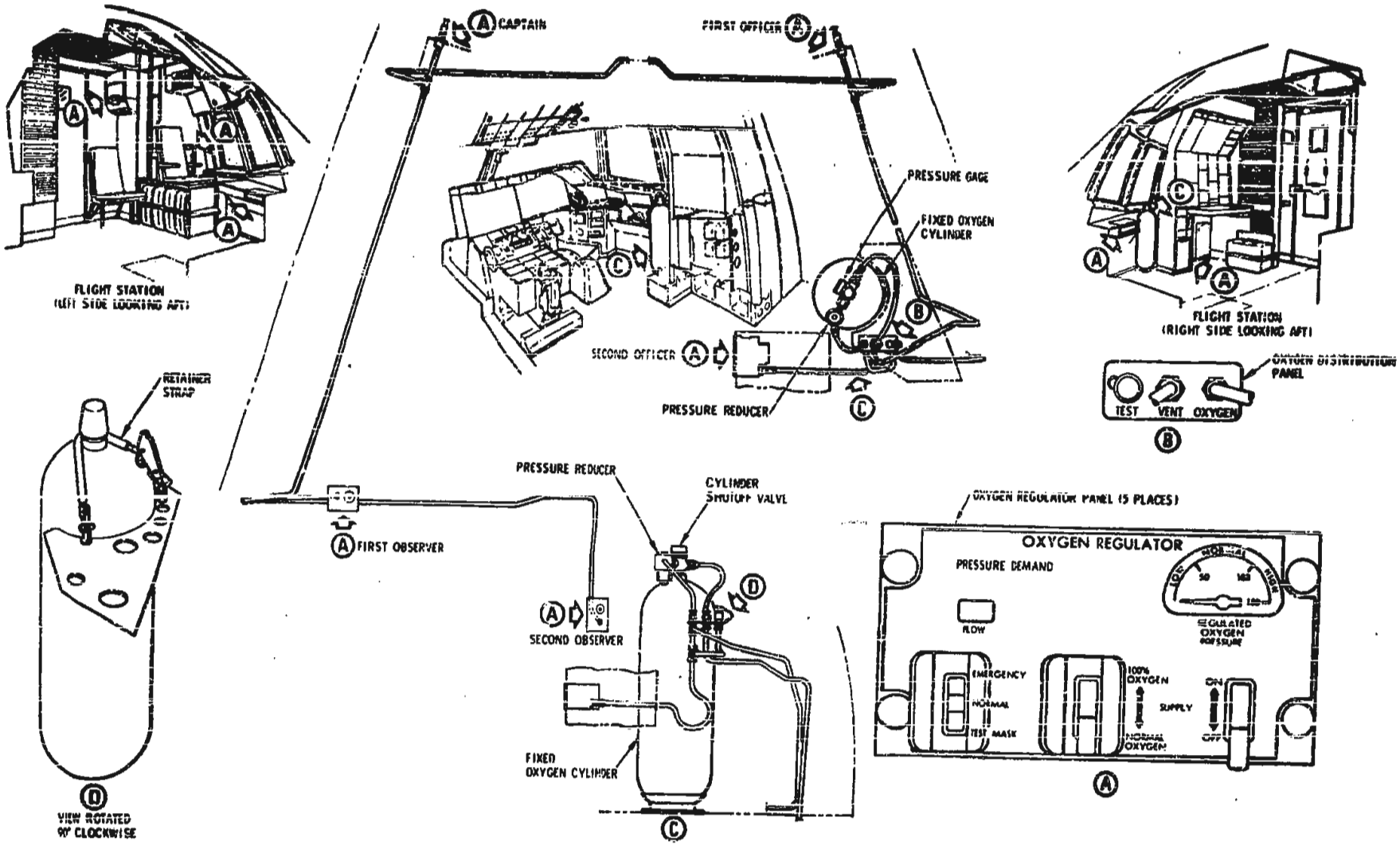
(5) Plug pressure gage into quick-disconnect TEST coupling on oxygen system hookup panel, zone 215. Replace oxygen cylinder if pressure gage does not read between 70 and 90 psi at 70 degrees F.

R (6) Slowly rotate cylinder shutoff valve to off position.

R 6. Crew Portable Oxygen Cylinder Servicing

WARNING: USE EXTREME CARE TO PREVENT OXYGEN CYLINDER OR COMPONENTS FROM BECOMING CONTAIMINATED WITH GREASE, OIL, OR DIRT. AVOID SUDDEN RELEASE OF OXYGEN UNDER PRESSURE. EITHER CONDITION COULD CAUSE EXPLOSION OR FIRE.

A. Remove Portable Oxygen Cylinder



Crew Oxygen System
Figure 301

R
R EFFECTIVITY: ALL
R
0018

CAUTION: HANDLE PORTABLE OXYGEN CYLINDER WITH CARE. MAINTAIN A FIRM GRIP WHEN REMOVING FROM, OR INSTALLING IN, STOWED POSITION.

CR R (1) Release clamp and slide oxygen cylinder out of stowed position, zone 211 (Ref. Fig.302).Check that shutoff valve is in off position.

R R (2) Disconnect smoke mask/hose assembly from adapter on cylinder assembly. Protect open ports with clean bags.

R B. Install Portable Oxygen Cylinder with Smoke Mask

R R (1) Connect smoke mask/hose assembly to adapter on cylinder assembly.

R R R (2) Slide oxygen cylinder into stowed position and secure with clamp. Stow smoke mask/hose assembly on top of cylinder keeping pressure gage readable.

C. Check Portable Oxygen Cylinder

R R (1) Check oxygen cylinder for physical damage. Replace if damage is evident. Verify hydrostatic test data on replacement cylinder has not expired.

R R R R (2) Check oxygen cylinder pressure gage for a pressure of 1800 ± 50 psig at 70 degrees F (Ref. Fig. 302). Replace cylinder if below minimum dispatch pressure (Ref. Table 301).

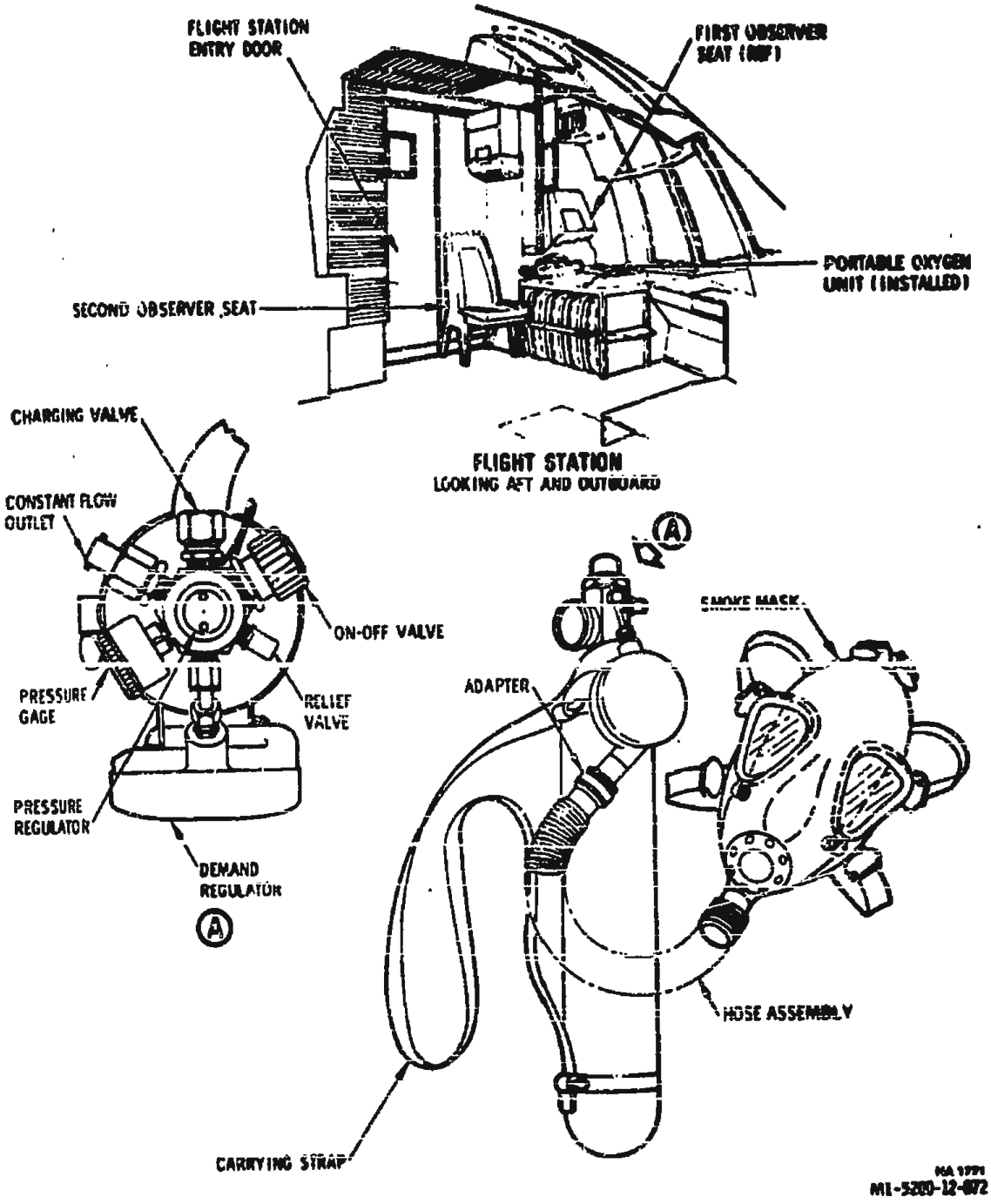
CR CR (3) Check that oxygen cylinder is secure in its mounting bracket (Ref. Fig. 302). (Ref. Fig. 302).

C C C L-1011 Oxygen System Minimum Dispatch Pressure
Table 301

CYLINDER TEMPERATURE DEGREES "F"	CREW CYLINDER - ALL SEGMENTS PSIG	CREW CYLINDER TRANS ATLANTIC HNL ROUTES PSIG	ALL PORTABLE CYLINDERS PSIG	PASSENGER SYSTEM USES CHEMICAL GENERATORS
-10	805	1100	1490	N
0	825	1125	1515	O
10	840	1150	1545	T
20	860	1175	1580	

L-1011 Oxygen System Minimum Dispatch Pressure (Cont)
Table 301

CYLINDER TEMPERATURE DEGREES "F"	CREW CYLINDER - ALL SEGMENTS PSIG	CREW CYLINDER TRANS ATLANTIC HNL ROUTES PSIG	ALL PORTABLE CYLINDERS PSIG	PASSENGER SYSTEM USES CHEMICAL GENERATORS
30	875	1200	1615	A
40	895	1225	1650	P
50	915	1250	1680	P
60	930	1275	1715	L
70	(70°F) 950	(70°F) 1300	(70°F) 1750	I
80	970	1325	1780	C
90	985	1350	1815	A
100	1005	1375	1850	B
110	1025	1400	1880	L
120	1040	1425	1915	E



CR Crew Portable Breathing Oxygen Cylinder
CR Figure 302

R EFFECTIVITY: ALL
R
001B

LANDING GEAR BRAKE ACCUMULATOR CHARGING

1. Equipment and Materials

Pressure-regulated dry gaseous nitrogen.

2. Referenced Procedures

24-41-00	External Power/Ground Service System - Maintenance Practices
29-11-00	Hydraulic Power System - Maintenance Practices

3. Servicing

A. Normal Brake System

CAUTION: CHOCK MAIN LANDING GEAR WHEELS WHENEVER PARKING BRAKES ARE TO BE RELEASED.

(1) Turn on electrical power (Ref. 24-41-00).

(2) Ensure that hydraulic system B pressure is zero (Ref. 29-11-00) and that parking brakes are off (Ref. Fig. 301).

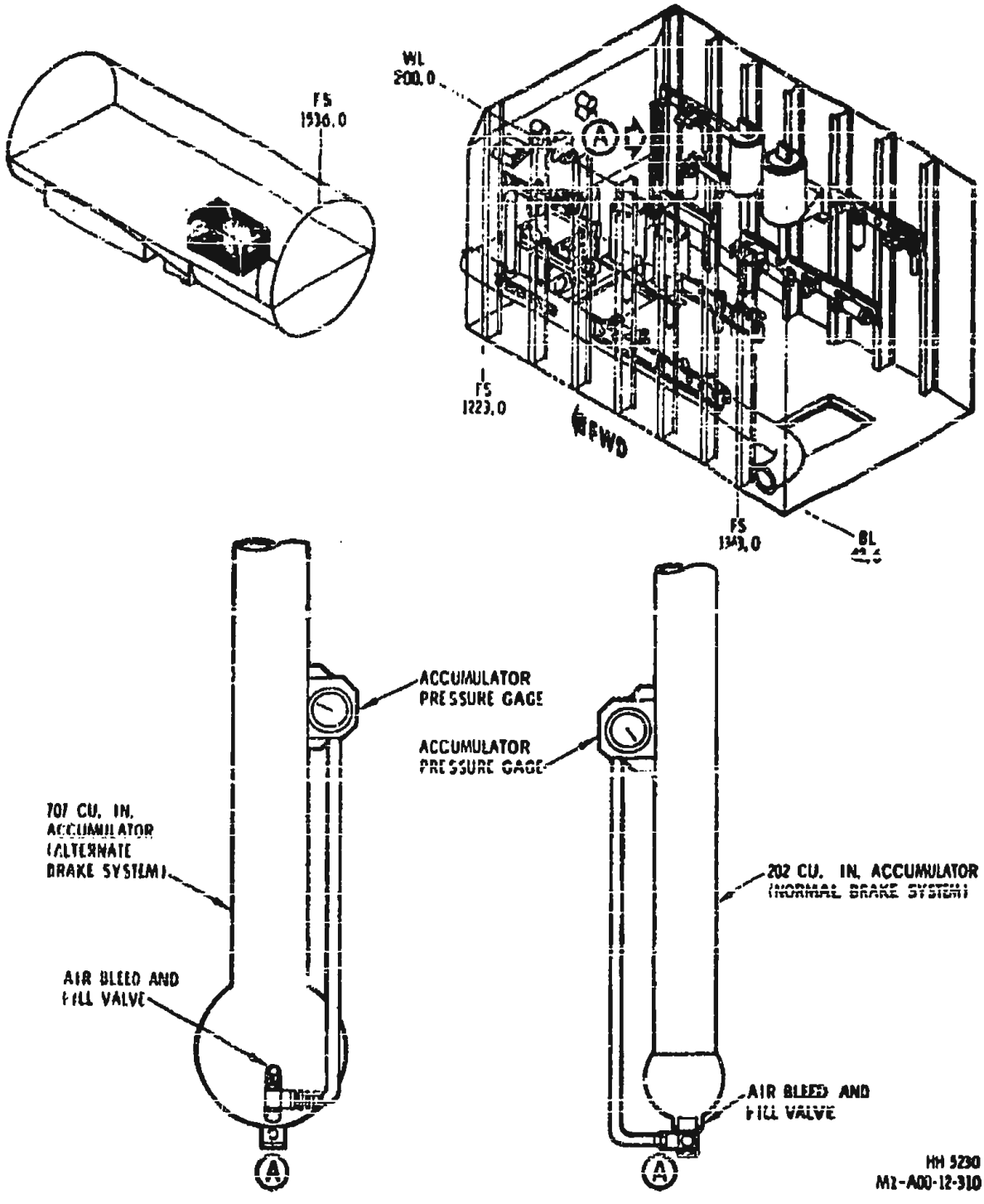
(3) At Flight Engineer/Second Officers overhead circuit breaker panel CB2, zone 215, ensure that PARKING BRAKE NO. 1, PARKING BRAKE NO. 2 and BRAKE PRESS IND circuit breakers are in on position.

(4) At pilots center instrument panel, zone 210, position BRAKE SYS SELECT switch to NORM SYS B.

(5) Determine ambient temperature in hydraulic service center, zone 147.

(6) Using ambient temperature obtained in Step A(5) and using pressure chart located on accumulator, determine accumulator servicing pressure. Remove valve cap and attach high pressure hose to servicing valve at lower end of accumulator. Loosen swivel nut one turn maximum. Do not loosen valve body.

(7) At accumulator fill valve (bottom of accumulator), discharge a small quantity of gas from accumulator to disperse any hydraulic fluid that may have accumulated



Landing Gear Brake Accumulator Charging
Figure 301

at the connection and prevent contamination of the gas charging rig.

NOTE: Contamination of the gas charging rig can result in the contamination of other equipment containing rubber components susceptible to damage by hydraulic fluid.

If a significant quantity of fluid emerges the accumulator must be considered unserviceable.

(8) Fill accumulator with dry gaseous nitrogen, regulated to 1100 pounds per square inch (psi), until pressure gage indicates pressure determined in Step A(6). Tighten swivel nut 50-70 in-lbs, remove servicing hose and reinstall valve cap.

(9) Actuate brake pedals. If accumulator pressure drops, continue to actuate brake pedals until drop in pressure stops. If required, fill accumulator to pressure determined in Step A(6).

(10) Turn off electrical power if no longer required (Ref. 24-41-00).

(11) If parking brakes were released, apply parking brakes.

B. Alternate Brake System

CAUTION: CHOCK MAIN LANDING GEAR WHEELS WHENEVER PARKING BRAKES ARE TO BE RELEASED.

(1) Ensure that hydraulic system C pressure is zero (Ref. 29-11-00) and that parking brakes are off.

(2) Turn on electrical power (Ref. 24-41-00).

(3) At Flight Engineer/Second Officers overhead circuit breaker panel CB2, zone 213, ensure that BRAKE NORM ALT VALVE and BRAKE NORM ALT MODULE circuit breakers are in on position.

(4) At pilots center instrument panel, zone 210, position BRAKE SYS SELECT switch to ALT SYS C.

(5) Determine ambient temperature in hydraulic service center, zone 147.

R (6) Using ambient temperature obtained in Step 3B(5) and using pressure chart located on accumulator, determine accumulator servicing pressure. Remove valve cap and attach high pressure hose to servicing valve at lower

end of accumulator. Loosen swivel nut one turn maximum. Do not loosen valve body.

(7) At accumulator fill valve (bottom of accumulator), discharge a small quantity of gas from accumulator to disperse any hydraulic fluid that may have accumulated at the connection and prevent contamination of the gas charging rig.

NOTE: Contamination of the gas charging rig can result in the contamination of other equipment containing rubber components susceptible to damage by hydraulic fluid.

If a significant quantity of fluid emerges the accumulator must be considered unserviceable.

(8) Fill accumulator with dry gaseous nitrogen, regulated to 800 psi, until pressure gage indicates pressure determined in Step 3(6). Tighten swivel nut 50-70 in-lbs, remove servicing hose and reinstall valve cap.

(9) Actuate brake pedals. Note if accumulator pressure drops. If pressure drops, continue to actuate brake pedals until drop in pressure stops. If required, fill accumulator to pressure determined in Step 3(6).

R (10) At pilots center instrument panel, zone 210, position
R BRAKE SYS SELECT switch to NORM SYS B.

R (11) Turn off electrical power if no longer required (Ref. 24-41-00).

MAIN GEAR SHOCK STRUT - SERVICING

1. General

The following procedures describe the servicing of the main gear shock struts with hydraulic fluid and nitrogen. These procedures are to be used only when the weight of the airplane is on the gear.

Each main gear strut has two ports. The upper port, located on top of the strut, is fitted with an air valve and is the nitrogen/oil/bleed port. The lower port, located at the bottom of the strut is fitted with a drain plug to drain hydraulic fluid from the strut.

2. Equipment and Materials

C Landing gear shock strut fluid filler standpipe, BF88-101
C 1304824 or equivalent.

Hydraulic fluid, Castrolaero 35, Castrolaero 40, Royco LGF, Royco SSF, Shell LGF, or Shell SSF

Hydraulic fluid, MIL-H-5606 (Approved Alternate)

C Molykote M-Gear Guard (TWA Stk. Nbr. 50-1054)

High pressure dry nitrogen bottle and hose

Landing gear strut valve chuck, Eaton Yale and Towne, Dill Div., P/N 8916, or equivalent

Torque Wrench, 1 - 150 inch pound range

3. Servicing Main Gear Shock Strut With Fluids - Gravity Method

A. Servicing With Airplane Resting On Gear

(1) Remove cap from air filler valve.

(2) Loosen 3/4 hex nut three turns maximum on air valve.

WARNING: DO NOT LOOSEN VALVE UNLESS STRUT IS COMPLETELY DEPRESSURIZED. PRESSURE CAN BLOW VALVE OUT OF STRUT, CAUSING INJURY TO PERSONNEL.

(3) When strut is completely depressurized, remove air filler valve from strut.

C NOTE: Any time more than 10 quarts of fluid is
C replaced in the strut, six (6) 2 oz packages of
C molykote M-Gear Guard should be added. Removal
C of the servicing valve is required to add
C molykote. If large fluid add or seal change
C occurs at a location where molykote M-Gear Guard
C is not available, proceed with strut servicing
C and advise MCIMD/MCIMC to establish a follow up
C to add molykote to the strut within 30 days.

(4) Install landing gear shock strut fluid filler standpipe to top air valve port of the shock strut.

(5) Slowly fill with fluid until overflow. Approximate
C capacity is 53 quarts. Be sure to allow all air to
C escape from strut to get a full fluid charge.

(6) Disconnect standpipe. Install air filler valve, torquing to 100-110 inch pounds.

C (7) Inflate strut with dry nitrogen.

4. Servicing Main Gear Shock Strut With Nitrogen

A. Servicing With Airplane Resting On Gear

(1) Remove cap from air filler valve.

(2) Install landing gear strut valve chuck to air filler valve.

(3) Attach nitrogen source to filler valve. Loosen 3/4 hex nut one turn maximum on air valve and slowly inflate strut with dry nitrogen until airplane lifts off of bottomed position.

(4) Adjust inflation so that dimension X and the pressure reading and strut extension agrees with curve on graph (Ref. Fig. 301).

(5) Tighten 3/4 hex nut on air valve; torque 50 to 70 inch pounds.

(6) Disconnect nitrogen source from air valve.

R (7) Install cap to air filler valve.

R B. Optional Method - Servicing with Shock Strut Fully Extended
R and Wheels Free of Ground

R (1) Remove cap from air filler valve.

R (2) Install landing gear strut valve chuck to air filler
R valve.

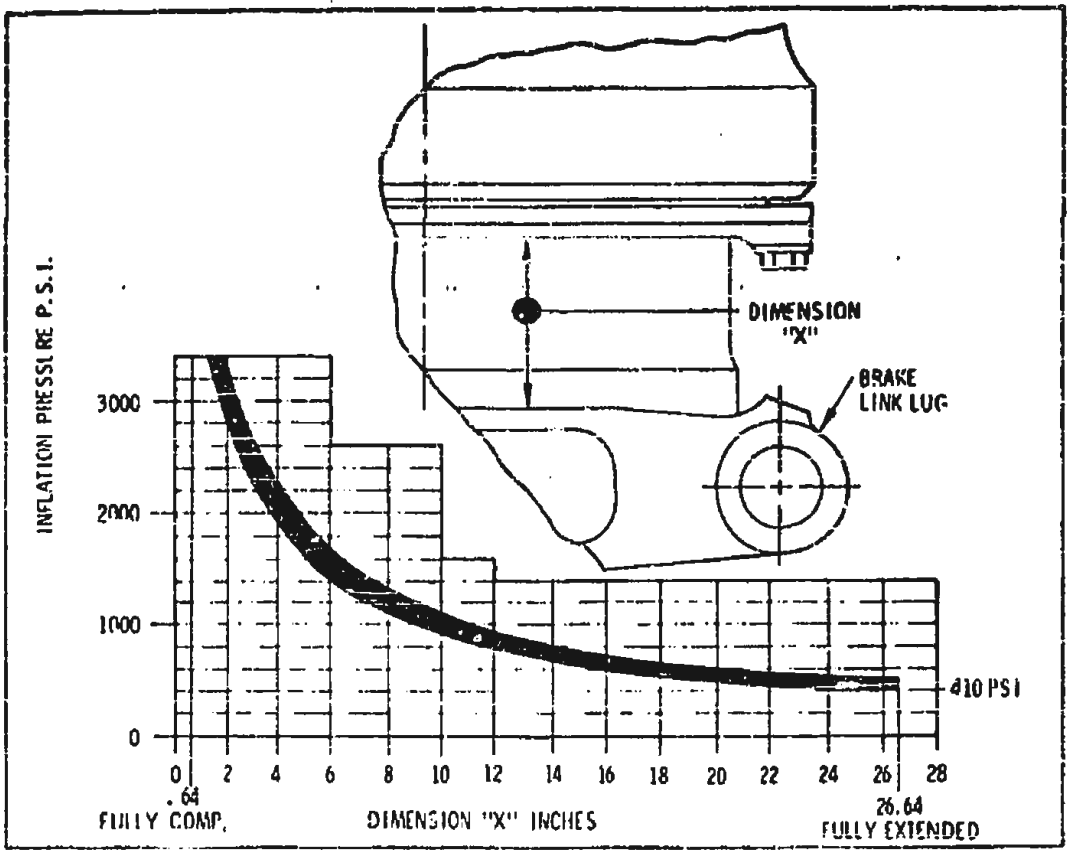
R (3) Attach nitrogen source to filler valve. Loosen 3/4 hex
R nut one turn maximum on air valve and slowly inflate
R strut with dry nitrogen.

R (4) Verify shock strut is fully extended so that dimension
R "X" is equal to 26.64 inches, then inflate strut with
R dry nitrogen to 410 (±15) psi.

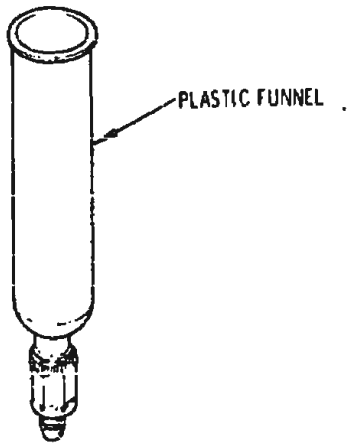
R (5) Tighten 3/4 hex nut on air valve; torque 50 to 70
R pound-inches.

R (6) Disconnect nitrogen source from air valve.

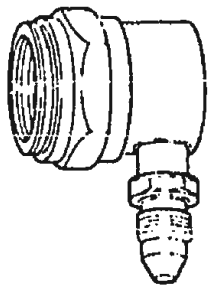
R (7) Install cap to air filler valve.



MAIN GEAR STRUT EXTENSION AND PRESSURE CHART ⚠1



SHOCK STRUT FLUID
FILLER STANDPIPE
(GRAVITY FILL)



LANDING GEAR
STRUT VALVE CHUCK
(PRESSURE FILL)

MI-0000-12-768

R Main Landing Gear Shock Strut - Servicing
R Figure 301

R EFFECTIVITY: ALL
R
0018

NOSE GEAR SHOCK STRUT - SERVICING

1. General

The following procedures describe the servicing of the nose gear shock strut with hydraulic fluid and nitrogen. These procedures are to be used only when the weight of the airplane is on the gear.

The nose gear strut has two ports. The upper port, located on top of the strut, is fitted with an air valve and is the nitrogen/oil/bleed port. The lower port, located at the bottom of the strut is fitted with a drain plug to drain hydraulic fluid from the strut.

2. Equipment and Materials

C Landing gear shock strut fluid filler standpipe, BF88-101
C 1304824 or equivalent.

R Hydraulic fluid, Castrolaero 35, Castrolaero 40, Royco LGF,
R Royco SSF, Shell LGF, or Shell SSF

Hydraulic fluid, MIL-H-5606 (Approved Alternate)

C Molykote M-Gear Guard (TWA Stk Nbr. 50-1054)

High pressure dry nitrogen bottle and hose

Landing gear strut valve chuck, Eaton Yale and Towne, Dill Div., P/N 8916, or equivalent

Torque Wrench, 1 - 150 inch pound rangePRESSURE CAN BLOW VALVE OUT OF STRUT, CAUSING INJURY TO PERSONNEL.

3. Servicing Nose Gear Shock Strut With Fluid - Gravity Method

A. Servicing With Airplane Resting On Gear

(1) Remove cap from air filler valve.

(2) Loosen 3/4 hex nut three turns maximum on air valve.

WARNING: DO NOT LOOSEN VALVE UNLESS STRUT IS COMPLETELY DEPRESSURIZED. PRESSURE CAN BLOW VALVE OUT OF STRUT, CAUSING INJURY TO PERSONNEL.

(3) When strut is completely depressurized, remove air filler valve from strut.

(4) Install landing gear shock strut fluid filler standpipe to top air valve port of the shock strut.

C NOTE: Any time more than 4 quarts of fluid is replaced
C in the strut two (2) 2 oz packages of Molykote
C M-Gear Guard should be added. Removal of the
C servicing valve is required to add Molykote. If
C large fluid add or seal change occurs at a
C location where Molykote M-Gear Guard is not
C available, proceed with strut servicing and
C advise MCIMD/MCIMC to establish a follow up to
C add Molykote to the strut within 30 days.

(5) Slowly fill with fluid until overflow. Approximate
C capacity is 11.5 quarts. Be sure to allow all air to
C escape from strut to get a full fluid charge.

(6) Disconnect standpipe. Install air valve, torquing to 100-110 inch pounds.

C (7) Inflate strut with dry nitrogen.

4. Servicing Nose Gear Shock Strut With Nitrogen

A. Servicing With Airplane Resting on Gear

(1) Remove cap from air filler valve.

(2) Install landing gear strut valve chuck to air filler valve.

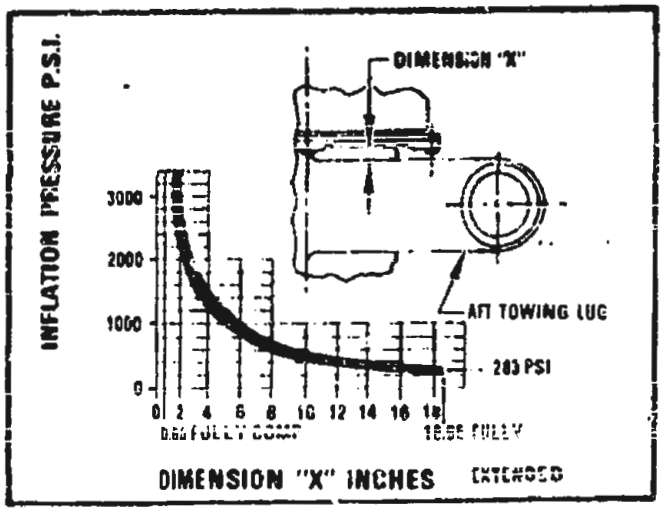
(3) Attach nitrogen source to filler valve. Loosen 3/4 hex nut one turn maximum on air valve and slowly inflate strut with dry nitrogen until airplane lifts off of bottomed position.

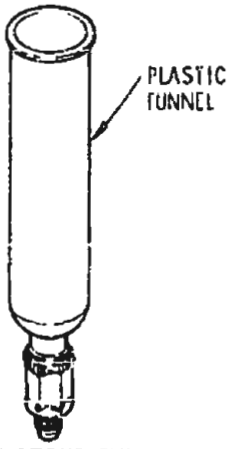
(4) Adjust inflation so that dimension X and the pressure reading and strut extension agrees with curve on graph (Ref. Fig. 301).

(5) Tighten 3/4 hex nut on air valve, torquing to 50-70 inch pounds.

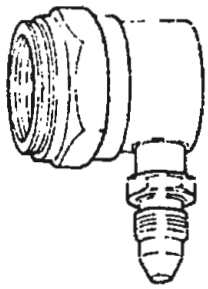
(6) Disconnect nitrogen source from air valve.

(7) Install cap to air filler valve.





SHOCK STRUT FLUID
FILLER STANDPIPE
(GRAVITY FILL)



LANDING GEAR
STRUT VALVE CHUCK
(PRESSURE FILL)

M1-0000-12-763

R Nose Landing Gear Shock Strut Servicing
R Figure 301

EFFECTIVITY: ALL

001B

TAIL SKID - SERVICING

1. General

The tail skid is a conventional oleo-pnumatic shock strut which is designed such that it can be retracted or extended as required. The servicing cover is located immediately forward of the tail skid shoe and piston. It houses the external servicing valve (for servicing the hydraulic portion of the strut with hydraulic fluid and low pneumatic pressure) and an extend/retract control switch. The internal servicing valve (for high pneumatic pressure servicing) is located in the bottom of the strut piston behind the tail skid shoe. A pressure gage, which indicates the hydraulic/pneumatic pressure in the hydraulic portion of the strut, is located in the fuselage adjacent to the external servicing valve cover.

2. Equipment and Materials

CR Tail Skid Servicing Unit G/ITEL Item 12-13-06, or equivalentTail
CR Skid Strut Valve Chuck Assembly G/ITEL Item 32-71-07, Eaton Yale
CR and Towne P/N 8916L, or equivalent TWA GEN 3238 Adapter.

Hydraulic Fluid, Lockheed Spec C-34-1224, or equivalent

Pressure-regulated dry gaseous nitrogen source capable of dispensing at 1500 psi

Pressure-regulated dry gaseous nitrogen source capable of dispensing at 100 psi

Tail Skid Strut Valve Chuck Assembly G/ITEL item 32-71-07, Eaton Yale and Towne Part No. 8916L, or equivalent

3. Referenced Procedures

24-00-00	Electrical Power - Maintenance Practices
29-11-00	Hydraulic Power System - Maintenance Practices
31-22-00	Proximity Switch System - Fault Isolation
32-71-00	Tail Skid Control System - Description and Operation
32-71-08	Tail Skid Shoe - Removal and Installation

4. Normal Servicing

A. Replenishing Tail Skid Shock Strut

(1) Open panel 318BA to gain access to tail skid external servicing valve and switch.

(2) Verify that tail skid is fully extended to 18.84 inches.

(3) Remove tail skid shoe (Ref. 32-71-08).

(4) Remove internal servicing valve cap and slowly loosen valve nut 1-1/2 turns to open valve and release air or nitrogen pressure.

(5) Position container under tail skid external servicing valve to catch spilling hydraulic fluid.

(6) Remove external servicing valve cap and slowly turn valve nut 3 to 4 turns to open valve and release air or nitrogen pressure.

(7) With tail skid fully extended and internal servicing valve open (under shoe), connect tail skid servicing unit to external servicing valve.

(8) Verify that external servicing valve is open and service with hydraulic fluid until pressure gage indicates 300 psi.

(9) CR Release hydraulic pressure and drain excess fluid into container. Leave valve open.

(10) CR CR Connect air hose to internal servicing valve (under shoe), using valve chuck Adapter GEN 3238. Pressurize tail skid to 1450 psi. Allow excess fluid to drain through the external servicing valve into container.

NOTE: Excess fluid drains out slowly. Twenty minutes of drain time may be required to ensure that all excess fluid has been drained out.

(11) Close internal servicing valve. Disconnect valve chuck assembly and hose. Lock valve and install valve cap.

(12) Install tail skid shoe (Ref. 32-71-08).

(13) Connect air or nitrogen hose to external servicing valve. Verify that valve is open and pressurize tail skid to 100 psi.

B. Tail Skid Checkout Procedure

R WARNING: VERIFY THE FOLLOWING BEFORE PRESSURIZING ANY HYDRAULIC SYSTEM:

LANDING GEAR DOWNLOCK SAFETY PINS AND DOOR SAFETY DEVICES ARE INSTALLED.

PERSONNEL AND GROUND EQUIPMENT ARE CLEAR OF ALL FLIGHT CONTROL SURFACES AND GEAR DOOR TRAVEL AREAS.

THE AFFECTED HYDRAULIC SYSTEMS CAN ACCEPT HYDRAULIC PRESSURE.

(1) Close external servicing valve and disconnect hose.

(2) Turn on hydraulic system A pressure (Ref. 29-11-00).

(3) Verify that tail skid ground service switch is in EXTEND position.

(4) Turn on electrical power (Ref. 24-00-00).

R CAUTION: EXCESS HYDRAULIC FLUID REMAINING IN TAIL SKID MAY CAUSE EXCESSIVE PRESSURE BUILD UP IN TAIL SKID WHEN RETRACTION IS PERFORMED. EXCESSIVE PRESSURE BUILD UP MAY BUCKLE OR DISTORT THE THIN WALL OF THE TAIL SKID POSITION SENSOR INSTALLATION RECESSES. WHILE RETRACTING THE TAIL SKID, IF THE PRESSURE GAGE INDICATES MORE THAN 300 PSI BEFORE THE TAIL SKID IS FULLY RETRACTED, THE TAIL SKID MUST BE IMMEDIATELY EXTENDED.

(5) Using tail skid ground service switch, retract tail skid while observing tail skid pressure gage. Do not permit pressure to exceed 300 psi.

(6) If pressure does not exceed 300 psi, lock external servicing valve, install valve cap, and perform Steps (8) through (14). If pressure exceeds 300 psi, perform Step (7).

(7) For excessive pressure, proceed as follows:

(a) Extend tail skid and turn off hydraulic system A pressure.

(b) Open external servicing valve 3 to 4 turns to release air or nitrogen pressure and permit excess hydraulic fluid to drain out.

(c) Repeat Steps (1) through (6).

(8) Measure distance from edge of tail skid shoe to fuselage. Mark this measuring position on shoe and fuselage skin.

(9) Turn off hydraulic system A pressure (Ref. 29-11-00).

(10) Wait 30 minutes and measure distance again at same position. If dimension has increased more than 1/8 inch, tail skid unlock, uplock, relief valve (32-71-05) or tail skid assembly (32-71-01) is bypassing hydraulic fluid and may not retain tail skid in fully retracted position.

(11) Turn on hydraulic system A pressure (Ref. 29-11-00).

(12) Extend tail skid.

(13) Turn off hydraulic system A pressure.

(14) Turn off electrical power (Ref. 24-00-00).

R 5. Alternate Quick Check Servicing

A. The following procedure may be used instead of normal servicing procedures (Para. 3) for an in-service unit with an apparent failure to remain retracted (indicated by TAIL SKID light being on in flight). If the fault is repeated, the tail skid should be replaced and the replacement tail skid serviced in accordance with Paragraph 3.

(1) BITE check proximity switch logic card J4 and switch card J10 (Ref. 31-22-00).

(2) Extend tail skid.

(3) Remove tail skid shoe (Ref. 32-71-08).

(4) Remove internal servicing valve cap (under shoe) and check for 1450 psi. Replenish as required (Step 3A(10)).

(5) Replace valve cap and tail skid shoe.

(6) Place container under external servicing valve.

(7) Remove external servicing valve cap and slowly turn valve nut 3 to 4 turns to open valve and release air or nitrogen pressure along with excess hydraulic fluid. Drain until hydraulic fluid flow ceases.

(8) Connect air or nitrogen to external servicing valve and pressurize to 100 psi.

(9) Close valve and install valve cap.

HYDRAULIC RESERVOIR AUXILIARY PRESSURIZATION ACCUMULATOR CHARGING

1. Equipment and Materials

Pressure-regulated dry gaseous nitrogen

2. Referenced Procedure

29-11-00 Hydraulic Power System - Maintenance Practices

3. Servicing

A. Charging Reservoir Pressurization Accumulator

(1) Open hydraulic service center access doors (147AB, 147BB).

(2) Verify that the applicable hydraulic system is off and system pressure is zero (Ref. 29-11-00).

(3) Verify that the applicable accumulator hydraulic pressure is bled off (Ref. 29-11-00).

(4) Determine ambient temperature of hydraulic service center.

(5) Using ambient temperature obtained in Step A(4), and using the pressure/temperature chart located on the accumulator, determine accumulator servicing pressure (Ref. Fig. 301). Remove valve cap and attach a high pressure hose to servicing valve at lower end of accumulator. Loosen swivel nut one turn maximum. Do not loosen valve body.

(6) Discharge a small quantity of gas from accumulator to disperse any hydraulic fluid that may have accumulated at the connection to prevent contamination of the gas charging rig.

NOTE: Contamination of the gas charging rig can result in the contamination of other equipment containing rubber components susceptible to damage by hydraulic fluid.

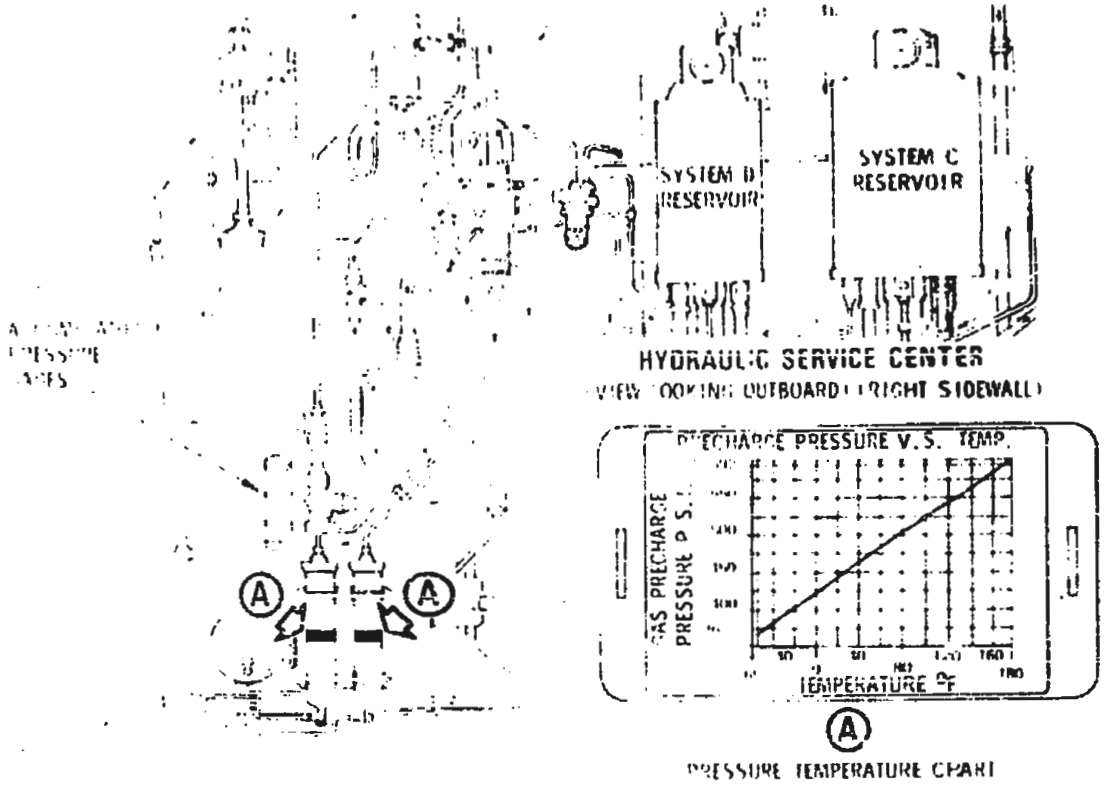
If a significant quantity of fluid emerges the accumulator must be considered unserviceable.

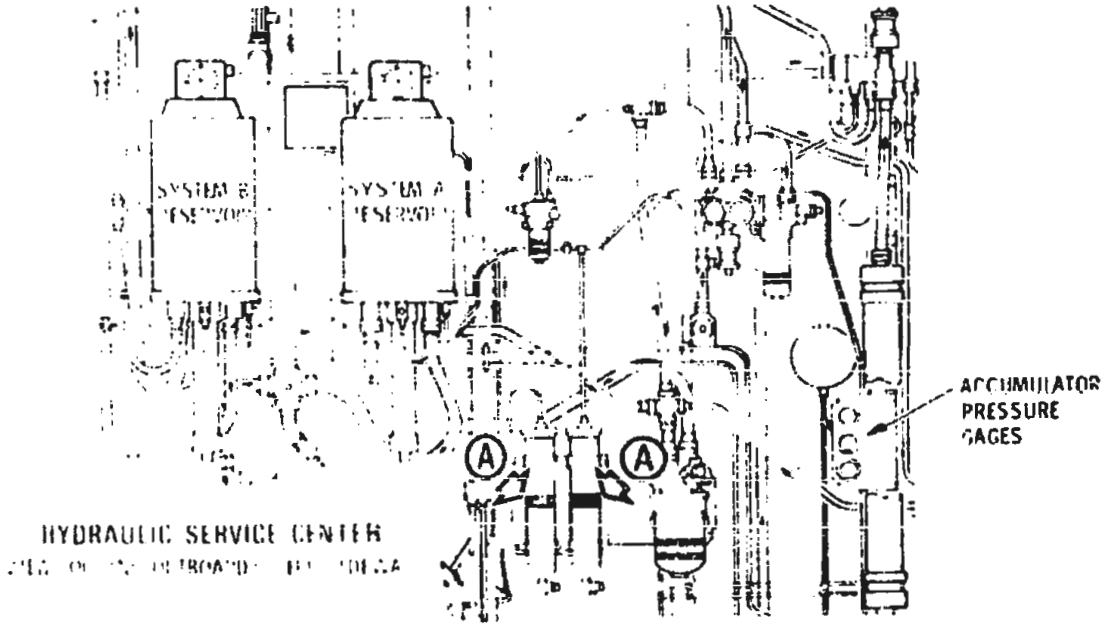
(7) Fill accumulator charging valve, fill accumulator with dry gaseous nitrogen, regulated to 1100 psi, until accumulator pressure gage indicates pressure required for ambient temperature (Ref. Fig. 301).

(8) Repeat Step A(3) to empty accumulator of hydraulic fluid.

(9) Recheck pressure gage. Pressurize with nitrogen as required.

R (10) Tighten swivel nut 50-70 in-lbs, remove servicing hose
R and reinstall valve cap on charging valve and close hydraulic service center access doors.





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Hydraulic Reservoir Auxiliary Pressurization Accumulator Charging
Figure 301

WATER/WASTE SYSTEMS REPLENISHING

R 1. General

R Water/waste systems replenishing procedures are contained in
R this section.

POTABLE WATER TANK - REPLENISHING

1. General

The potable water storage tank can be filled from an air terminal water hydrant or from a potable water supply truck. The potable water supply truck must consist of the required equipment for purging, filling, draining, and pressurizing the potable water system.

The potable water storage tank is pressurized after filling automatically with power on aircraft. A potable water service panel for replenishing is located on the bottom surface of the fuselage, to the right of the aircraft vertical centerline, zone 136.

C NOTE: Refer to Paragraph 2.E. for servicing potable water tank
C with inoperative aircraft air compressors.

To assist in maintaining an operational system a pressurization chart showing time requirements to pressurize the water system under variable conditions is contained in Figure 302. All components, lines, and fittings not in heated areas have provisions to prevent freezing whenever aircraft is powered and the relevant circuit breakers are closed. Aircraft parked for a prolonged time in subfreezing weather with no power applied should have the potable water system drained to prevent possible damage by ice formation (Ref. 38-11-00).

C 2. Servicing

C A. Draining System

C NOTE: Reference 38-11-00, 201, Maintenance Practices if
C desirable to drain system.

C B. Filling System

C NOTE: The following instructions apply when complete
C filling of the water system (after having been
C completely drained) is to be accomplished.

C (1) Flush approximately 2 gallons of water through external
C water supply line.

C NOTE: This is to flush out dirt, dust, etc. which may
C be in or on hose.

CR (2) Turn off water supply.

(3) Pull SYSTEM FILL & OVERFLOW VALVE CONTROL HANDLE to open position.

(4) Connect hose to POTABLE WATER FILL CONNECTION.

NOTE: Water must be city drinking water or equivalent supplied through clean, odorless, tasteless tubing. Plastic or Buna N type hoses are suitable for servicing water systems.

(5) Turn on external water source. Never exceed 125 psi water pressure. Service with water at temperature of 70° to 90°F. (Use warm water only when sub-freezing temperatures are involved. Use cold water in warmer temperature).

(6) Replenish tank until water reaches overflow level or desired gage quantity.

(7) Shut off water supply.

(8) Close (push in) SYSTEM FILL & OVERFLOW VALVE CONTROL HANDLE.

(9) Disconnect supply hose and allow water to drain.

(10) Replace cap on POTABLE WATER FILL CONNECTION.

(11) With power on aircraft verify tank is pressurizing.

NOTE: Normal pressurization will take place automatically with electrical power on aircraft in approximately 15 minutes.

(12) System may be pressurized without electrical power on aircraft as follows:

(a) Connect air hose to GROUND PRESSURE CONNECTION.

(b) While observing air pressure gage, pressurize system.

(c) Disconnect air hose.

(13) Close and lock water service door.

(14) Operate all drinking fountains to bleed air from system.

NOTE: If the tank is not pressurized over 10 psig, all lavatory, galley and drinking fountain spigots must be checked for leakage after servicing.

C C. Topping Off or Replenishment of Water System

C NOTE: The following instructions apply when the water
C system requires only topping off or replenishing on
C turn around or thru flights.

C (1) Flush approximately 2 gallons of water through external
C water supply line.

C (2) Open fuselage external access doors.

C (3) Pull SYSTEM FILL & OVERFLOW VALVE CONTROL HANDLE to
C open position.

C (4) Connect hose to POTABLE WATER FILL CONNECTION.

C NOTE: Water must be city drinking water or equivalent.
CR Supplied through clean, odorless, tasteless,
CR tubing. Plastic of Buna N type hases are
CR suitable for servicing water systems.

C (5) Turn on external water source. Never exceed 125 psi
C water pressure. Service with water at temperature of
C 70° to 90°F. (Use warm water only when sub-freezing
C temperatures are involved. Use cold water in warmer
C temperature).

C (6) Replenish tank until water reaches overflow level or
C desired gage quantity.

C (7) Shut off water supply.

C (8) Close (push in) SYSTEM FILL & OVERFLOW VALVE CONTROL
C HANDLE.

C (9) Disconnect supply hose and allow water to drain.

C (10) Replace cap on POTABLE WATER FILL CONNECTION.

C (11) With power on aircraft verify tank is pressurizing.

C NOTE: Normal pressurization will take place
C automatically with electrical power on aircraft
C in approximately 15 minutes.

C (12) System may be pressurized without electrical power on
C aircraft as follows:

C (a) Connect air hose to GROUND PRESSURE CONNECTION.

C (b) While observing air pressure gage, pressurize
C system.

(c) Disconnect air hose.

(13) Close and lock water service door.

(14) Operate all drinking water fountains to bleed air from system if tank was empty.

NOTE: If the tank is not pressurized over 10 psig, all lavatory, galley and drinking fountain spigots must be checked for leakage after servicing.

D. Scheduled Servicing of the Potable Water Tank.

(1) Flush approximately 2 gallons of water through external water supply line.

(2) Open fuselage external access doors.

(3) Check quantity gage to determine quantity of water required to fill tank.

(4) Pull SYSTEM FILL & OVERFLOW VALVE CONTROL HANDLE to open position.

(5) Connect hose to POTABLE WATER FILL CONNECTION.

NOTE: Water must be city drinking water or equivalent supplied through clean, odorless, tasteless tubing. Plastic or Buna N type hoses are suitable for servicing water systems.

(6) Turn on external water source. Never exceed 125 psi water pressure. Service with water at temperature of 70° to 90°F. (Use warm water only when sub-freezing temperatures are involved. Use cold water in warmer temperature).

(7) Replenish tank until water reaches overflow level or desired gage quantity.

(8) Shut off water supply.

(9) Close (push in) SYSTEM FILL & OVERFLOW VALVE CONTROL HANDLE.

(10) Disconnect supply hose and allow water to drain.

(11) Replace cap on POTABLE WATER FILL CONNECTION.

(12) With power on aircraft verify tank is pressurizing.

C NOTE: Normal pressurization will take place
C automatically with electrical power on aircraft
C in approximately 15 minutes.

CR (13) System may be pressurized without electrical power on
C aircraft as follows:

C (a) Connect air hose to GROUND PRESSURE CONNECTION.

C (b) While observing air pressure gage, pressurize
C system.

C (c) Disconnect air hose.

CR (14) Close and lock water service door.

CR (15) Operate all drinking water fountains to bleed air from
C system.

C NOTE: If the tank is not pressurized over 10 psig, all
C lavatory, galley and drinking fountain spigots
C must be checked for leakage after servicing.

C E. Servicing Potable Water Tank with Inoperative Air
C Compressors

C (1) Replenish the potable water tank to approximately a 75
C gallon level.

C (2) Air charge the potable water tank with an external air
C source at the servicing panel.

C NOTE: The 75 gallons of water with approximately 30-35
C psig of air pressure will provide adequate water
C and pressure for all L1011 routes.

WASTE DISPOSAL SYSTEM - REPLENISHING

1. General

The aircraft toilet waste tanks must be serviced after each scheduled flight by emptying, flushing, and recharging the tanks with fluid containing a dye-deodorant-disinfectant chemical solution. A servicing truck is required that will hold waste, provide flushing and recharging solutions, illuminate the work area, and have an all-weather operating capability to -40 degrees F. All components, lines, and fittings not in heated areas have provisions to prevent freezing whenever aircraft is powered and the relevant circuit breakers are closed. Aircraft parked for a prolonged time in subfreezing weather with no power applied should have the waste water lines and tanks drained and flushed as outlined in Paragraph 3A to prevent possible damage by ice formation.

2. Equipment and Materials

A. Dye-deodorant-disinfectant chemical solution: Jet Degerm

B. Servicing truck equipped with a Y-fitting - Roylyn P/N M2651-133 or equivalent.

C. Drain plug TWA 32-6872 to be used if aircraft replacement is required

3. Servicing

To service the forward and aft waste system, open access doors 113AB and 167AB (Ref. Fig. 301). The procedural steps for servicing the waste tank, forward and aft, are listed in Table 301.

NOTE: Lavatories should be serviced within :45 minutes after arrival.

Waste Disposal System Servicing
Table 301

A.	To service the waste disposal system
(1)	Turn on service panel light switch to deactivate the vent pump during servicing.
(2)	Connect the drain and flushing lines to the aircraft.

Waste Disposal System Servicing (Cont)
Table 301

A.		To service the waste disposal system
	(3)	Remove the drain plug from the aircraft drain port using the handle on the Y-fitting.
	(4)	Open the drain valve and allow the waste to drain. Allow approximately 3 gallons of clear flush water to run during draining.
	(5)	Close the drain valve and fill the tank 1/2 full of water. (20 gal. fwd) & (40 gal. aft.)
	(6)	Open the drain valve and allow the waste to drain. Allow clear flush water to drain into ground service equipment and continue to run clear water to flush waste tank for 30 seconds. Repeat steps (5) and (6) to FLUSH EACH TANK TWICE.
	(7)	Close the drain valve and reinstall the drain plug using the handle on the Y-fitting.
	(8)	Precharge the tank with 15 gal. fwd and 20 gal. aft.
	(9)	Disconnect the drain and flushing lines.
	(10)	Assure that there is no leakage at the drain plug.
	(11)	Close the drain cap and secure the service panel door.

4. Waste Disposal System Ground Service Panel Access Door Is Missing

A. Perform the following procedures when waste disposal system ground service panel access door is missing (Ref. Fig. 302).

(1) Ensure drain valve cover handle is fully closed.

(2) Wrap safety wire (0.020 inch diameter stainless steel) around end of drain valve cover handle and hinge pin, pulling strands tightly and twisting to form a pigtail of 1/4 to 1/2 inch.

NOTE: Use of safety wire in accordance with above procedures is a temporary method to hold drain valve cover handle in closed position when waste disposal system ground service panel access door is missing. Safety wire must be removed when

waste disposal system ground service panel access door is replaced.

C 5. Waste System Servicing

C For Use With Secondary Toilet Drain Valve 10101000L1011 - (Ref. C Fig. 303)

C NOTE: This procedure can be used with or without the drain hose C wye coupling installed on the lavatory servicing truck.

C A. Open service panel access door.

C B. Turn on service panel light switch to de-activate the vent C pump during servicing.

C C. Unlatch and open aircraft waste drain cap.

C D. Connect 4 inch drain hose from lavatory servicing truck to C aircraft drain fitting.

C E. Connect flushing and precharge servicing hose to aircraft CR flushing and charging fitting.

C F. Open drain valve internal flapper valve by pulling down on C external release handle.

C NOTE: Handle is marked PULL TO OPEN. (Ref. Fig. 304)

C G. Pull out aircraft waste drain valve handle to open position CR allowing waste to drain into servicing truck. Allow approx. CR 3 gallons of clear flush water to run during draining.

C H. Return drain valve handle to closed position. Pump 20 C gallons clear water into forward waste tank (40 gallons into C aft tank) using truck gauge to measure quantity.

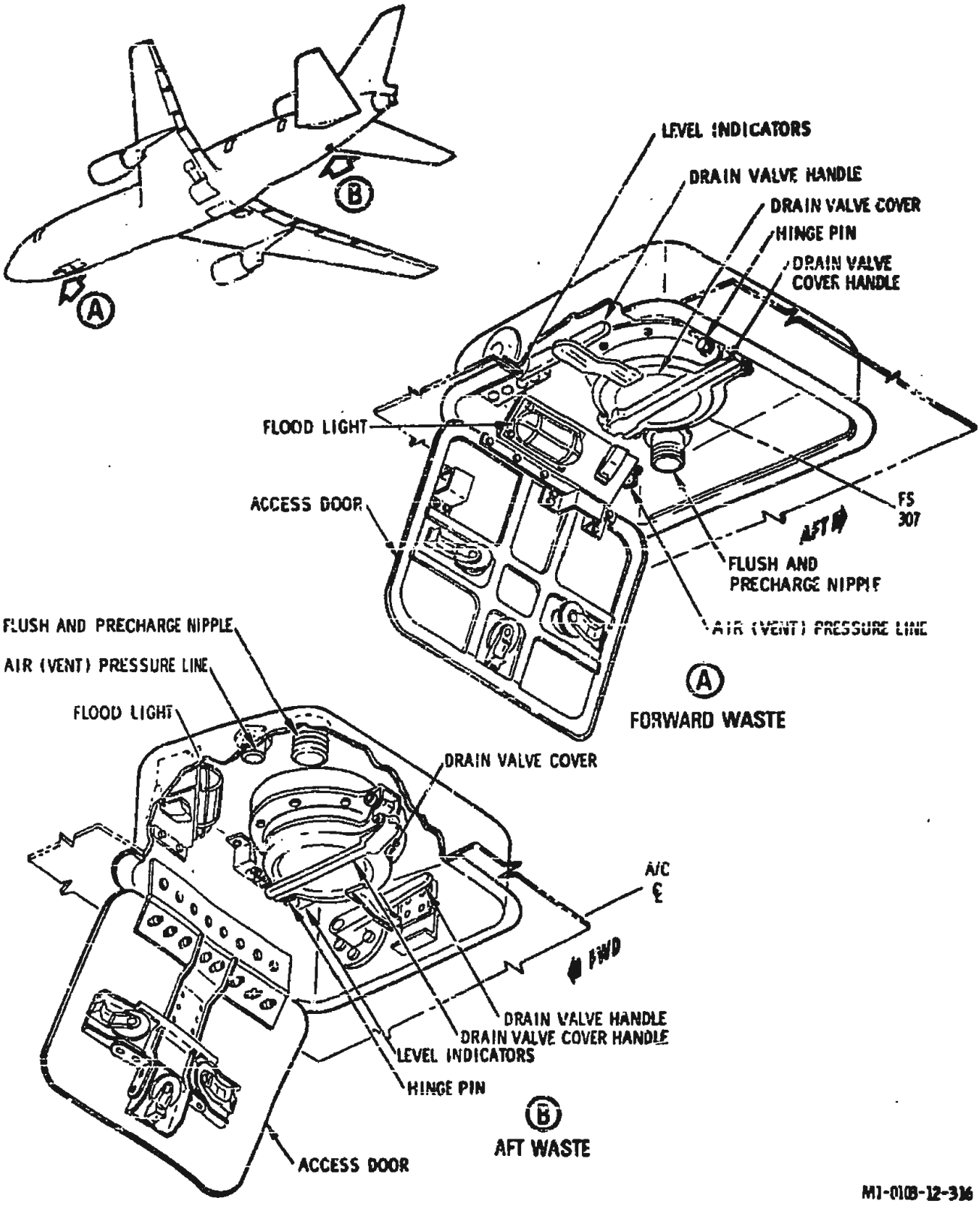
C I. Pull drain valve handle to open position and drain flushing CR water from tank. Allow clear flush water to run during CR draining for approximately 30 seconds. Repeat Steps H. and CR I. to FLUSH EACH TANK TWICE.

C J. Return handle to closed position.

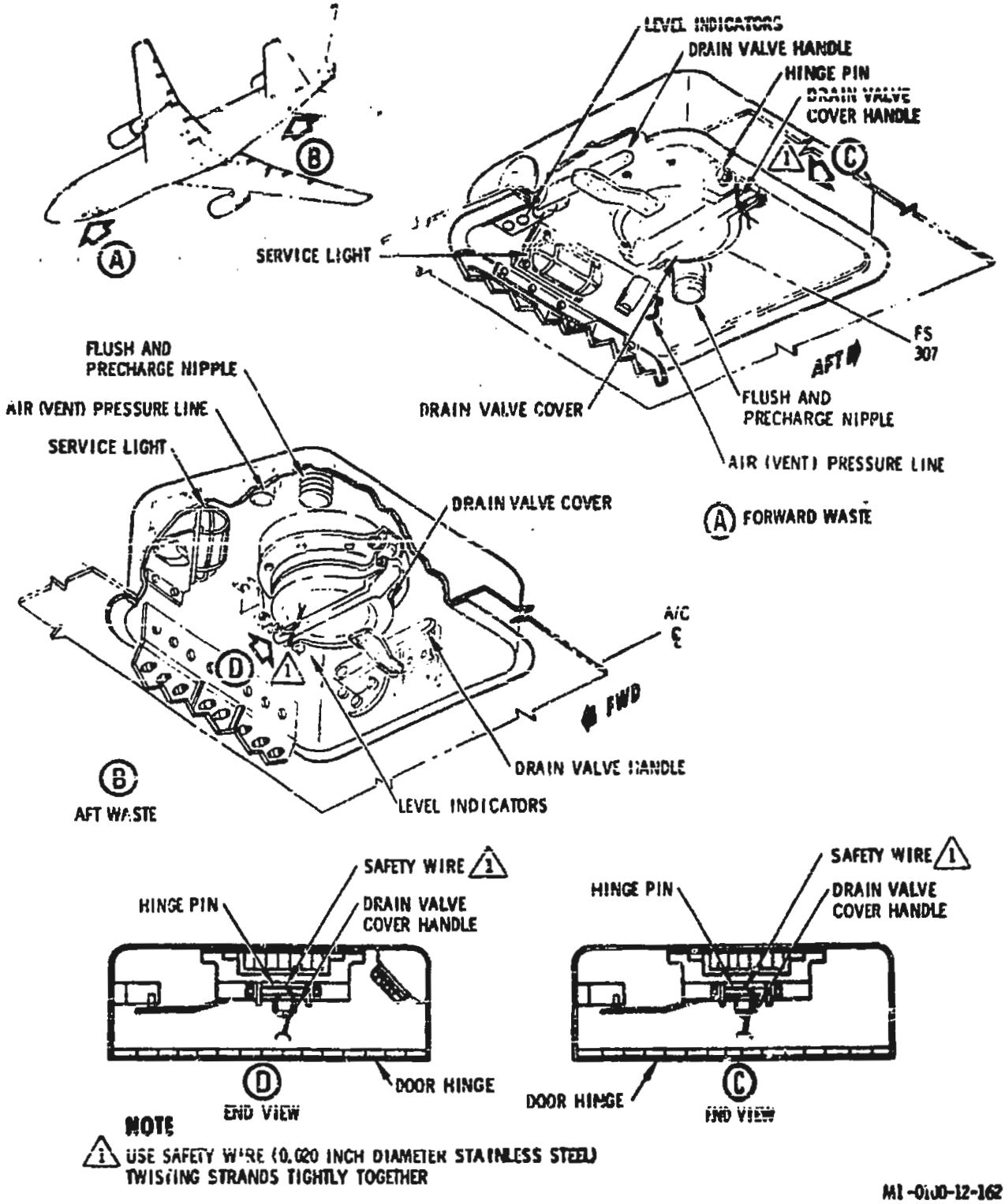
C K. Precharge the forward tank with 15 gallon deodorant solution C and 20 gallons aft.

C L. Disconnect ground servicing equipment.

C M. Reset internal flapper valve as follows:



Waste Disposal System Servicing Replenishing
Figure 301



NOTE

1 USE SAFETY WIRE (0.020 INCH DIAMETER STAINLESS STEEL) TWISTING STRANDS TIGHTLY TOGETHER

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Safety Wire Drain Valve Cover Handle When Waste Disposal System Servicing Replenishing Panel Access Door Is Missing
Figure 302

C (1) Hold down external release handle.

C (2) Push up flapper valve and hold in closed position.

C (3) Release external handle.

C (4) Release flapper valve.

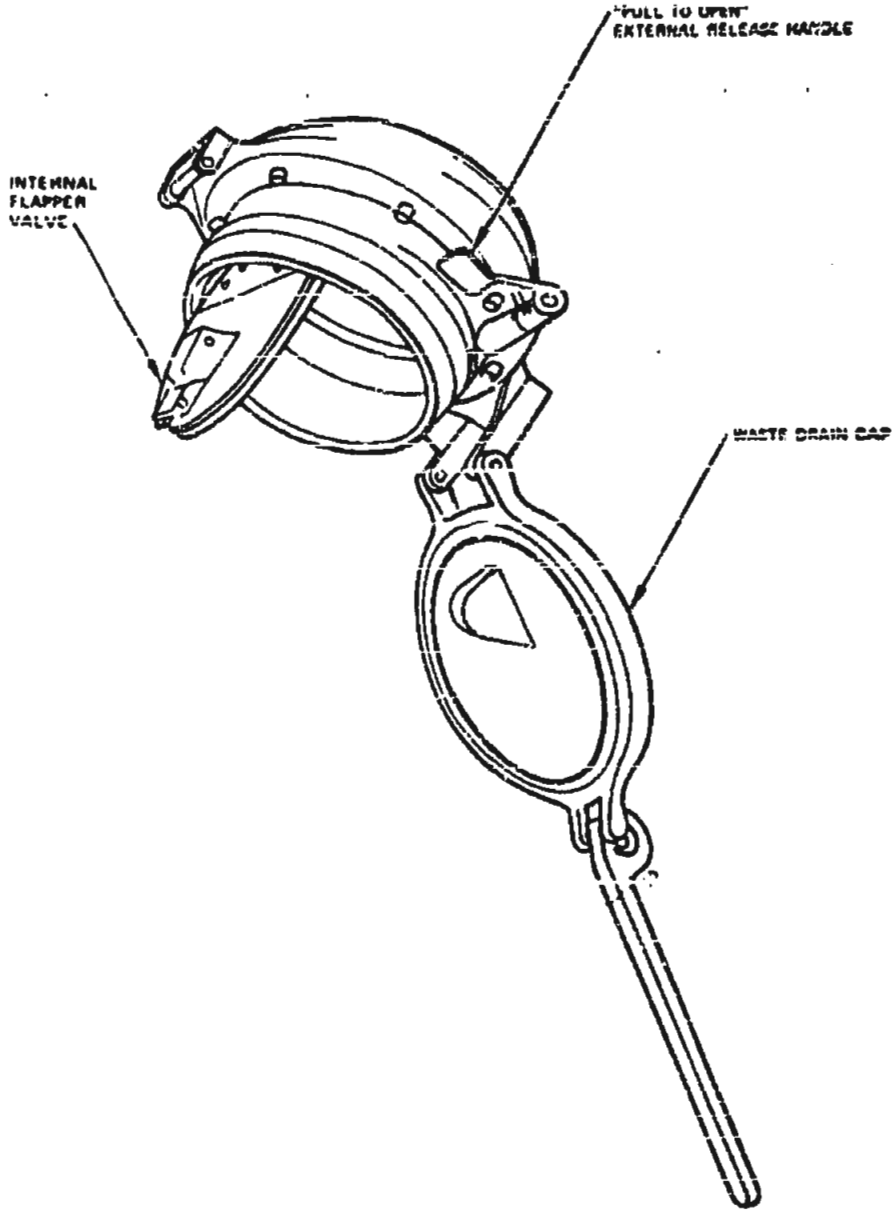
C NOTE: Valve must be latched securely in closed
C position before proceeding.

C N. Close and latch waste drain cap.

C CAUTION: INTERNAL VALVE MUST BE SECURELY CLOSED BEFORE CLOSING
C EXTERNAL DRAIN CAP.

C O. Turn off service panel light.

C P. Close and latch service panel access door.



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CR
CR

Secondary Toilet Drain Valve
Figure 303

R EFFECTIVITY: ALL
R
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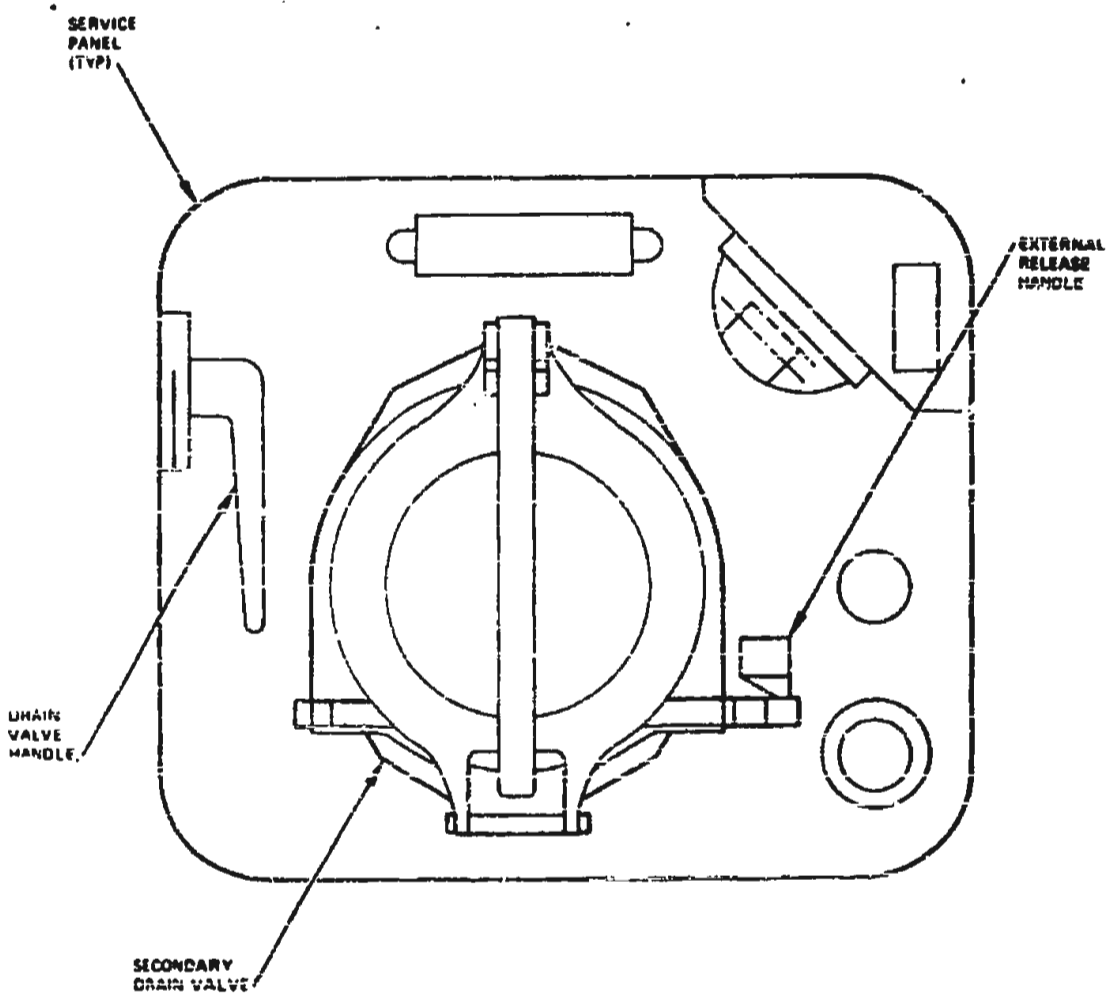

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CR
CR

Typical Drain Valve Installation
Figure 304

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R
001B

EFFECTIVITY: ALL

MISCELLANEOUS SYSTEMS REPLENISHING

1. Servicing

The following miscellaneous systems replenishing instructions are contained in the applicable chapters as indicated:

R A. Powerplant Fire Extinguisher System (Ref. 26-21-00)

R B. Passenger Oxygen System (Ref. 35-21-00)

R C. Evacuation Slide Cylinders (Ref. 25-61-01)

R D. Aircraft Battery (Ref. 24-32-03)

WINDSHIELD WASHER RESERVOIR REPLENISHING

1. Equipment and Materials

Windshield cleaning fluid, Pacific Chemical, PACE SP 116-13

R Rolls-Royce fluid - Specification AEP-1-W/M, issue 6 or a
R mixture of distilled water and methanol (Federal Spec O-M-232,
R Grade A or equivalent), containing 43.8% to 50.0% by volume of
R methanol with the complementing quantity of distilled water

R Container (1/2-gallon, minimum)Container (1/2-gallon, minimum)

2. Servicing

WARNING: AVOID SKIN AND EYE CONTACT WITH WASHER FLUID.

CAUTION: MIXING FLUIDS IN RESERVOIR NOT RECOMMENDED. DRAIN RESERVOIR PRIOR TO FILLING WITH ALTERNATE FLUID. RINSING OR ADDITIONAL CLEANING OF RESERVOIR NOT REQUIRED.

A. Draining Windshield Washer System

(1) Open manual control valves: one on the left side console, the other on the right side console, zone 210.

(2) Open access door 112AB.

(3) On the reservoir/pump, located in the right side of the forward electronic service center, zone 113, press PUSH to OPEN drain valve and hold until the fluid is completely drained (Ref. Fig. 301).

(4) Close manual control valves.

B. Filling Windshield Washer System

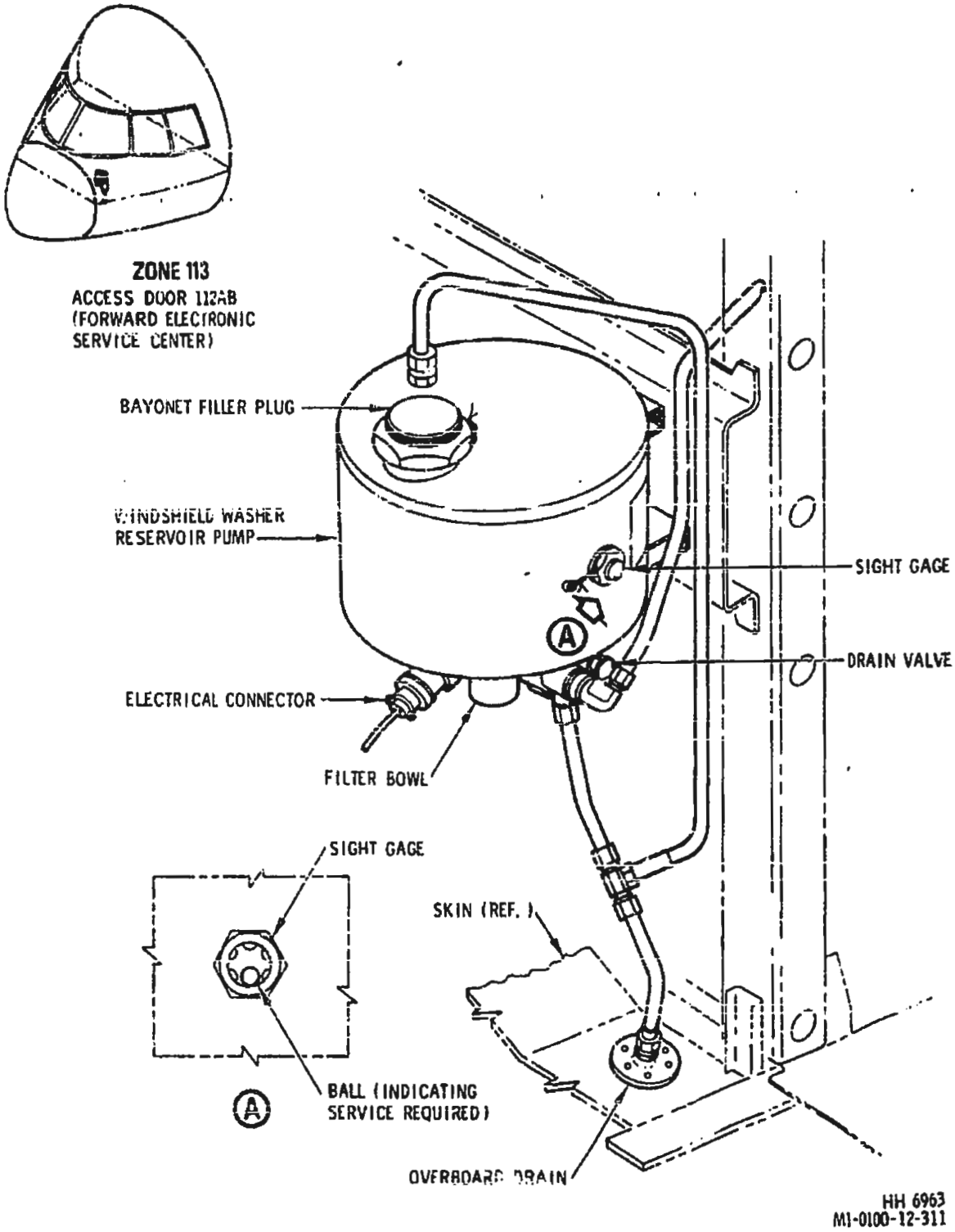
NOTE: If the sight gage on the reservoir/pump is below the top of the sight gage window, the reservoir/pump is less than half full.

(1) Remove bayonet filler plug.

(2) Add fluid to reservoir to filler plug level (1 gallon capacity).

(3) Replace filler plug.

(4) Close and secure access door.



Windshield Washer Reservoir Replenishing
Figure 301

WINDSHIELD RAIN REPELLENT - SERVICING

1. Equipment and Materials

Operating Medium, a removable, pressurized 500cc can, Rainboe Type III Fluid, or equivalent

2. Servicing

A. Rain Repellent Container

R WARNING: IF RAIN REPELLENT CONTACTS EYES OR SKIN, FLUSH AT ONCE WITH WATER.

(1) Release overcenter clamp.

(2) Unscrew container from manifold.

(3) Screw new container into manifold.

(4) Latch overcenter clamp.

APU WARNING HORN - SERVICING

1. General

The APU warning horn is located in the aircraft afterbody aft lower section, zone 317, left of the centerline. It consists of a direct-current motor and vane-type air compressor connected to an air horn. The compressor unit has a plug that is removed for
R lubrication (Ref. Fig. 301). The compressor should be
R lubricated following any horn operation.

2. Equipment and Materials

Lubricating Oil, M.O. SAE 10 Chevron Special, MIL-L-7870, VV-L-800, or equivalent

3. Servicing

A. Lubrication

WARNING: HIGH INTENSITY SOUND CAN PERMANENTLY DAMAGE HEARING. ENSURE SYSTEM WILL NOT BE ACTIVATED WHILE IN THE AREA.

(1) On the Flight Engineer/Second Officers aft circuit breaker panel CB3, zone 215, open and tag circuit breaker APU BAT BUS - FIRE HORN (S6).

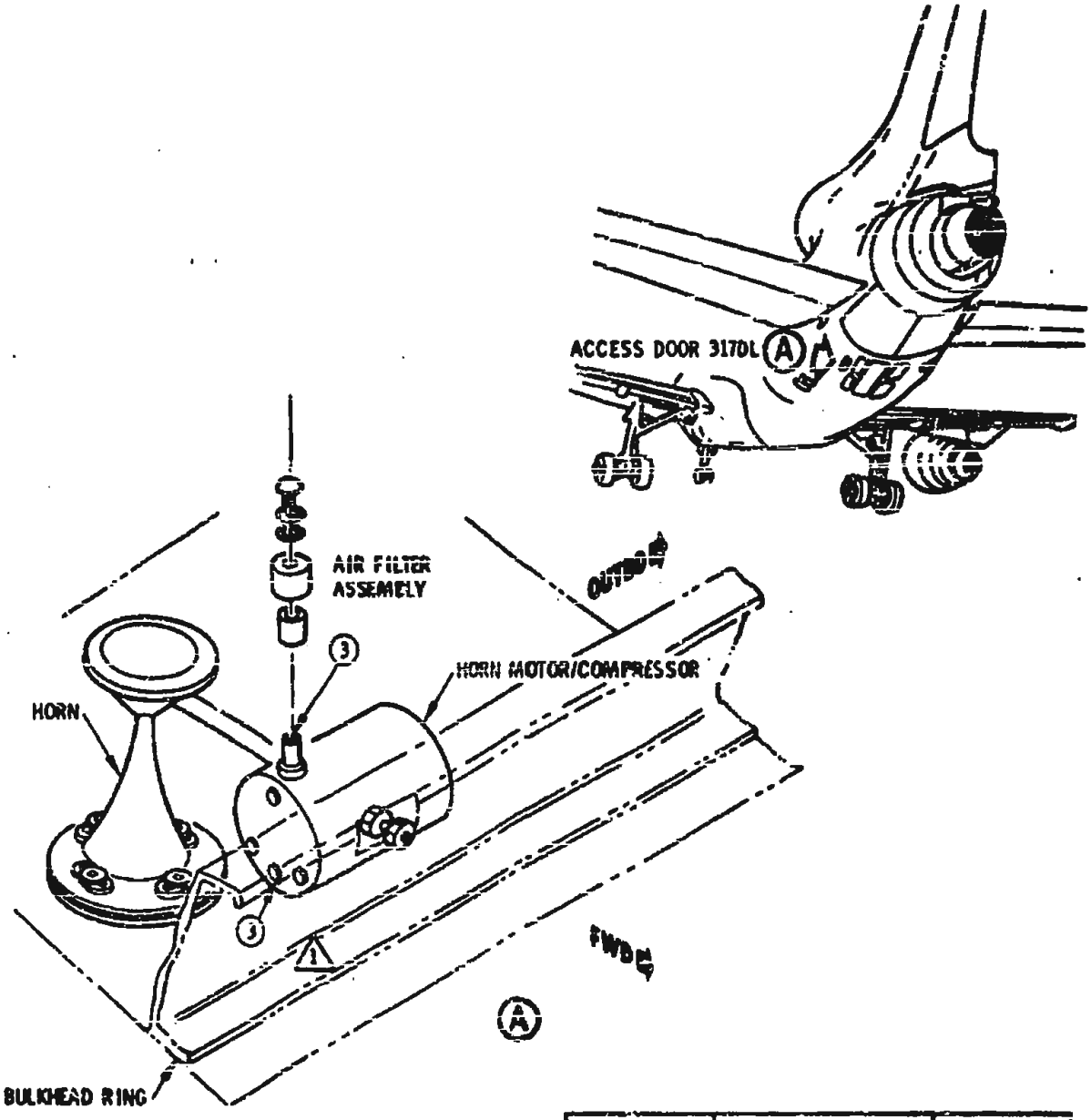
(2) Open access door 317DL in the afterbody aft lower section.

(3) Locate the warning horn motor and compressor unit just fwd of the access panel and remove the lubrication plug or air filter assembly (Ref. Fig. 301).

R (4) Apply two drops of lubrication oil and replace plug or air filter assembly.

(5) Close access panel 317DL.

(6) Remove tag and close circuit breaker opened in Step A(1).



LUBRICANT	NOTE	APPLICATION
③	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

NOTE

1. NOTE ALTERNATE ACCESS ONLY. ONLY ONE PLACE REQUIRES LUBRICATION
2. APPLY 2 DROPS OF LUBRICANT AND REINSTALL AIR FILTER ASSEMBLY OR PLUG

MI-0002-12-701

R
R

APU Warning Horn Lubrication
Figure 301

R AUXILIARY_POWER_UNIT_-_ENGINE_WASH_FLUID_REPLENISHMENT

R 1. General

R An APU engine wash system automatically injects 1.5 quarts of
R wash fluid into the engine compressor inlet during each tenth
R APU shutdown cycle. System operation is completely automatic
R except for the periodic refilling of the wash fluid storage
R tank. The wash tank is mounted on the APU platform and is
R normally pressurized to a regulated 30 psig by engine compressor
R bleed air. Wash tank replenishment is accomplished by hand
R pumping or pouring the required amount of fluid into the tank
R through a gravity fill port until it runs out of a tank vent
R port. Internal tank pressure is vented to atmosphere when a
R tank overflow drain hose is attached to the tank vent port.

R 2. Equipment_and_Materials

R Wash Solution, Rivenaes Motor Cleaner (RMC), or equivalent.
R (MacGregor Comarain Inc., 135 Dermondy Street, Cranford, New
R Jersey 07016)

R Hose Assembly, Wash Tank Fill (Available from Ham Std)

R Hose Assembly, Vent Fitting (Available from Ham Std)

R 3. Servicing

R A. Replenishment

R (1) Open APU compartment forward access doors.

R (2) At the aft end of the wash fluid tank, remove the tank
R vent fitting dust plug and fill fitting dust cap.

R CAUTION: WHEN VENT FITTING HOSE IS CONNECTED TO VENT
R FITTING, INTERNAL TANK PRESSURE (30 PSIG) WILL BE
R VENTED TO ATMOSPHERE. DIRECT DISCHARGE END OF
R HOSE AWAY FROM SERVICING PERSONNEL AND INTO A
R CONTAINER.

R (3) Engage vent fitting hose to quick disconnect coupling
R on vent fitting.

R (4) Engage fill hose quick disconnect coupling to tank fill
R fitting.

R R (5) Fill the tank with Rivenaes Motor Cleaner (RMC) until the fluid flows from the vent fitting hose.

R R (6) Remove the vent fitting and fill fitting hose assemblies.

R R (7) Reinstall the fitting dust cap and plug removed in Step (2).

R R P (8) Enter servicing data in aircraft log. Record quantity of fluid added, ETI readout, and (if installed) the APU start counter readout.

R R (9) Close APU access doors and position fluid scraper catcher aft against the APU access door.

SCHEDULED SERVICING - LUBRICATION

1. Servicing

The components that require periodic lubrication, the lubricant to be used, and the method of application are specified herein.

The recommended lubrication specifications, codes, and symbols are shown in Figure 301. Each illustration shows the location and identity of the components to be lubricated, the number of fitting or lube application areas, and a coded lubricant chart that is used in conjunction with Figure 301.

2. Lubrication Information

WARNING: SOLVENTS AND LUBRICANTS ARE FLAMMABLE. DO NOT EXPOSE SUCH MATERIALS TO ANY IGNITION SOURCE.

A. Lubricant Application

(1) Wipe all grease fittings, oil holes, etc., with clean, dry cloth before and after lubricating.

(2) Verify that fittings accept grease as evidenced by grease extruding from mechanism being lubricated.

(3) When the aircraft has been washed or exposed to dust, sand, rain, snow, or sleet, exposed components must be inspected and lubricated as necessary.

(4) When grease gun cannot be applied to lube fitting because of fitting orientation or access, reference should be made to SB12-002. This Service Bulletin provides instruction for replacement or repositioning of grease fittings for improved access.

B. Solid Film Lubricants

(1) Solid film lubricated parts have been surface-treated and coated with a heat-cured, resin-bonded coating containing molybdenum disulfide and/or graphite.

CAUTION: DO NOT LUBRICATE PARTS WITH CONVENTIGNAL OILS OR GREASE UNLESS SPECIFICALLY CALLED OUT IN THE LUBRICATION CHARTS ON APPLICABLE FIGURES.

(2) Worn solid film lubricant coatings are to be recoated with the original type lubricant. Specific solid film

- lubricants will be called out on the corresponding illustration.

LUBE	TYPE OF LUBRICANT	PRINCIPAL USAGE	PROCUREMENT SPECIFICATION
1	GREASE, AIRCRAFT AND INSTRUMENT (6)	GENERAL AIRCRAFT	MIL-G-23827B TWA STK NBR 50-1047
2	GREASE, AIRCRAFT HIGH-TEMPERATURE	WHEEL BEARINGS	NLGI-GRADE 2 (1) TWA STK NBR 50-1057
3	LUBRICATING OIL, WIDE TEMPERATURE RANGE	GENERAL PURPOSE	MIL-L-7870A (2) TWA STK NBR 50-0842
4	LUBRICATING OIL, AIRCRAFT SYNTHETIC BASE	ENGINE STARTER	MOBIL 254 TWA STK NBR 50-9990
5	LUBRICATING OIL, AIRCRAFT SYNTHETIC BASE	APU AND IDG	EXXON ETO 236) TWA STK NBR 50-9984
6	HYDRAULIC FLUID PETROLEUM BASE	SHOCK STRUTS	MIL-H-5606A 50-0117 (MOBILE AERO HFA)
7	GREASE	ENGINE THRUST REVERSER	MIL-G-23827B TWA STK NBR 50-1047
	LUBRICATING OIL	THRUST REVERSER MOTOR	MOBIL 254 TWA STK NBR 50-9990
8	GREASE (6)	HIGH-LOAD BEARING SURFACES	MIL-G-23827 50-1047
9	LUBRICATING OIL, AIRCRAFT TURBINE ENGINE	ENGINE	ETO-25 * TWA STK NBR 50-0980
10	LUBRICATING OIL, AIRCRAFT	FLAP POWER DRIVE UNIT	MIL-L-7808 50-1010
11	OIL, CORROSIVE PREVENTATIVE	MECH. DOWN LOCK INDICATOR	LPS-1 WD-40 ** 50-0964 OPTIONAL 50-0980
12	CORROSION PREVENTIVE COMP.	CARGO DOORS	MIL-C-16173 TWA STK. NBR. 50-0125
13	PARKER O-LUBE	STATIC JOINT APPLICATION	50-1096 (3) 35 LB CAN
14	LPS NO. 3	STATIC JOINT APPLICATION	50-1014 (3) 16 OZ AEROSOL CAN
15	LUBRICATING OIL AND GREASE MIXTURE	FLAP BALLSCREW GEARBOXES SLAT ACTUATOR SPLINED DRIVE SHAFT	MIL-L-7808 50-1010 MIL-G-23827 50-1047 (4)
16	GREASE (5)(6)	LANDING GEAR	ROYCO 11 MS

*HUMBLE OIL AND REFINING CO.

**ROCKET CHEMICAL INC., SAN DIEGO, CALIF.

NOTE

(1) RONEX MP (REPLACES AEROSHELL 5 AND MOBIL 28)

(2) TEXACO PRODUCT CODE 1692; EXXON INSTRUMENT OIL

(3) DO NOT USE STATIC JOINT CORROSION PREVENTIVE MATERIAL ON THE FOLLOWING:
(1) CONTROL CABLES
(2) ENGINE BOTTLE BOLTS
(3) ANY ENGINE ASSEMBLY OR INSTALLATION

(4) MIX FOUR (4) PARTS OF MIL-L-7808 TO ONE (1) PART MIL-G-23827
TWA STOCK NO. 50-0920, REF. FIGURE 304 IN SECTION 12-23-20

(5) RECOMMENDED ALTERNATE GREASE IS MIL-G-23827B

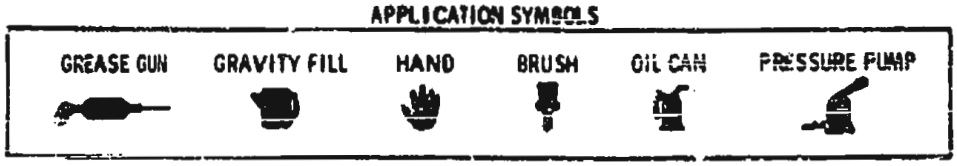
CAUTION

(6) ROYCO 11 MS MUST NOT BE USED AS A FLIGHT CONTROL LUBRICANT

M1-0008-12-490

CR Lubricant Specifications, Codes and Symbols
CR Figure 301 (Sheet 1)

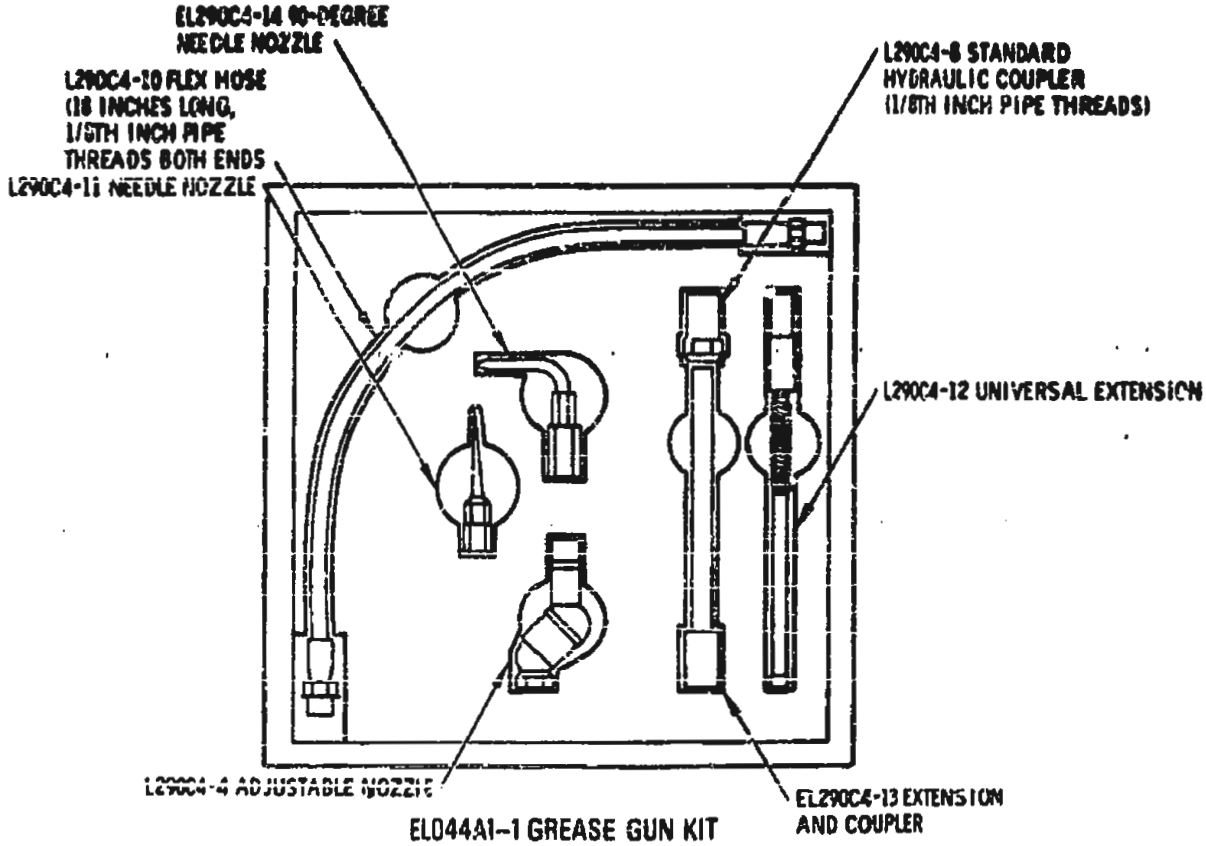
APPLICATION SYMBOLS



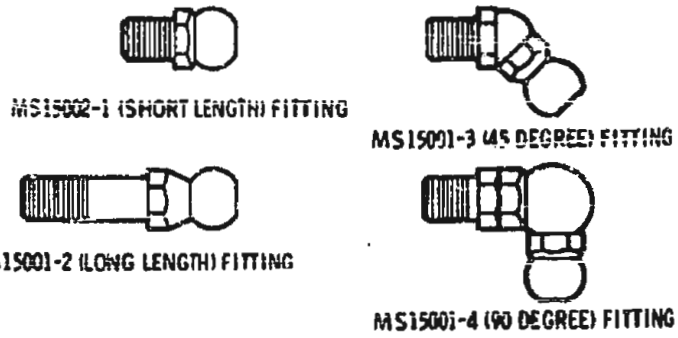
MI-0000-12-489

C Lubricant Specifications, Codes and Symbols
C Figure 301 (Sheet 2)

R EFFECTIVITY: ALL
R
001B


EL290C4-14 90-DEGREE NEEDLE NOZZLE
L290C4-10 FLEX HOSE (18 INCHES LONG, 1/8TH INCH PIPE THREADS BOTH ENDS
L290C4-11 NEEDLE NOZZLE
L290C4-8 STANDARD HYDRAULIC COUPLER (1/8TH INCH PIPE THREADS)
L290C4-12 UNIVERSAL EXTENSION
L290C4-4 ADJUSTABLE NOZZLE
EL290C4-13 EXTENSION AND COUPLER

EL044A1-1 GREASE GUN KIT



TYPICAL LUBE FITTINGS

NOTE

ALL NUMBERS SHOWN FOR EL044A1-1 GREASE GUN KIT ARE LOCKHEED PART NUMBERS

FLUSH TYPE LUBE FITTINGS MAY BE USED WHERE NECESSARY FOR CLEARANCE PURPOSES OR WHERE COMPONENTS ARE TOO SMALL TO PERMIT PROTRUDING FITTINGS

CAUTION

WHERE ADJUSTMENT IS NECESSARY TO POSITION THE MS15001-3 AND -4 ANGLE TYPE FITTINGS, ROTATION SHOULD BE LIMITED TO 180° AFTER BEING INSTALLED FINGER TIGHT. IF MORE THAN 180° ROTATION IS REQUIRED THE LUBE FITTING MAY SHEAR OFF DUE TO OVER TORQUING. SELECTIVELY TRY NEW GREASE FITTINGS UNTIL ONE IS FOUND THAT REQUIRES LESS THAN 180° OF TIGHTENING, BEYOND FINGER TIGHT, FOR PROPER POSITION. THE ANGULAR POSITION OF THE GREASE FITTING WITH RESPECT TO THE THREAD IS RANDOM.

M1-0000-12-491

Grease Gun Kit, and Types of Lubrication Fittings
Figure 302

R

POWERPLANT/APU LUBRICATION

R 1. **Servicing**

R Secure the airplane in a clean area suitable for lubrication
R servicing.

R Servicing equipment should include grease guns, oil cans,
R brushes, clean cloths and other equipment required for proper
R lubrication.

R Observe power plant maintenance practices safety precautions
R prior to and during lubrication servicing as outlined in the
R engine chapters.

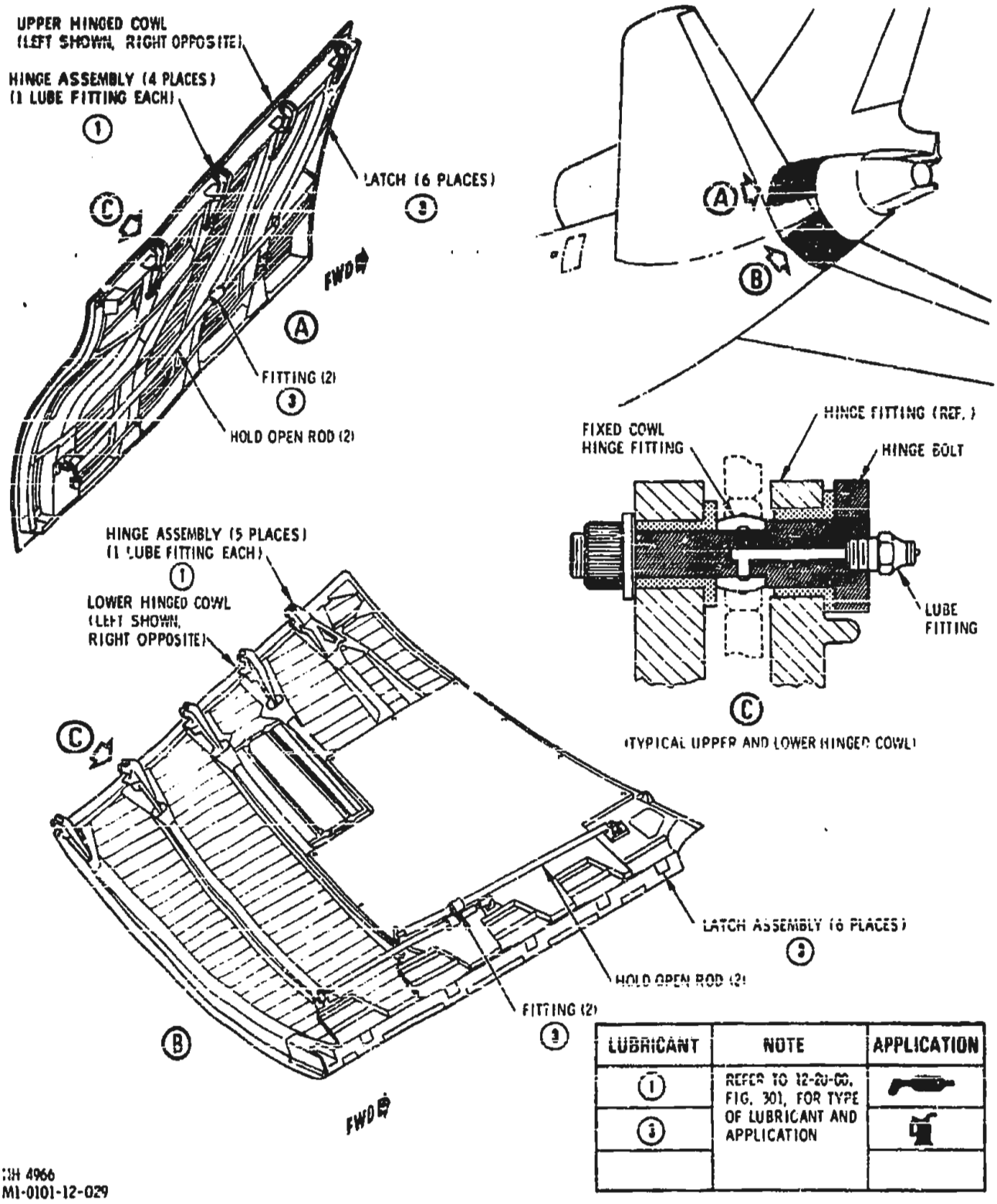
R The following components require lubrication:

R A. Engine No. 2 Cowling (Ref. 12-21-06, Fig. 301)

R B. Air Intake (S-Duct) Adapter Door (Ref. 12-21-07, Fig. 301)

R C. Thrust Reverser Drive System (Ref. 12-21-31, Fig. 301)

R D. APU Platform Mount (Ref. 12-21-46, Fig. 301)



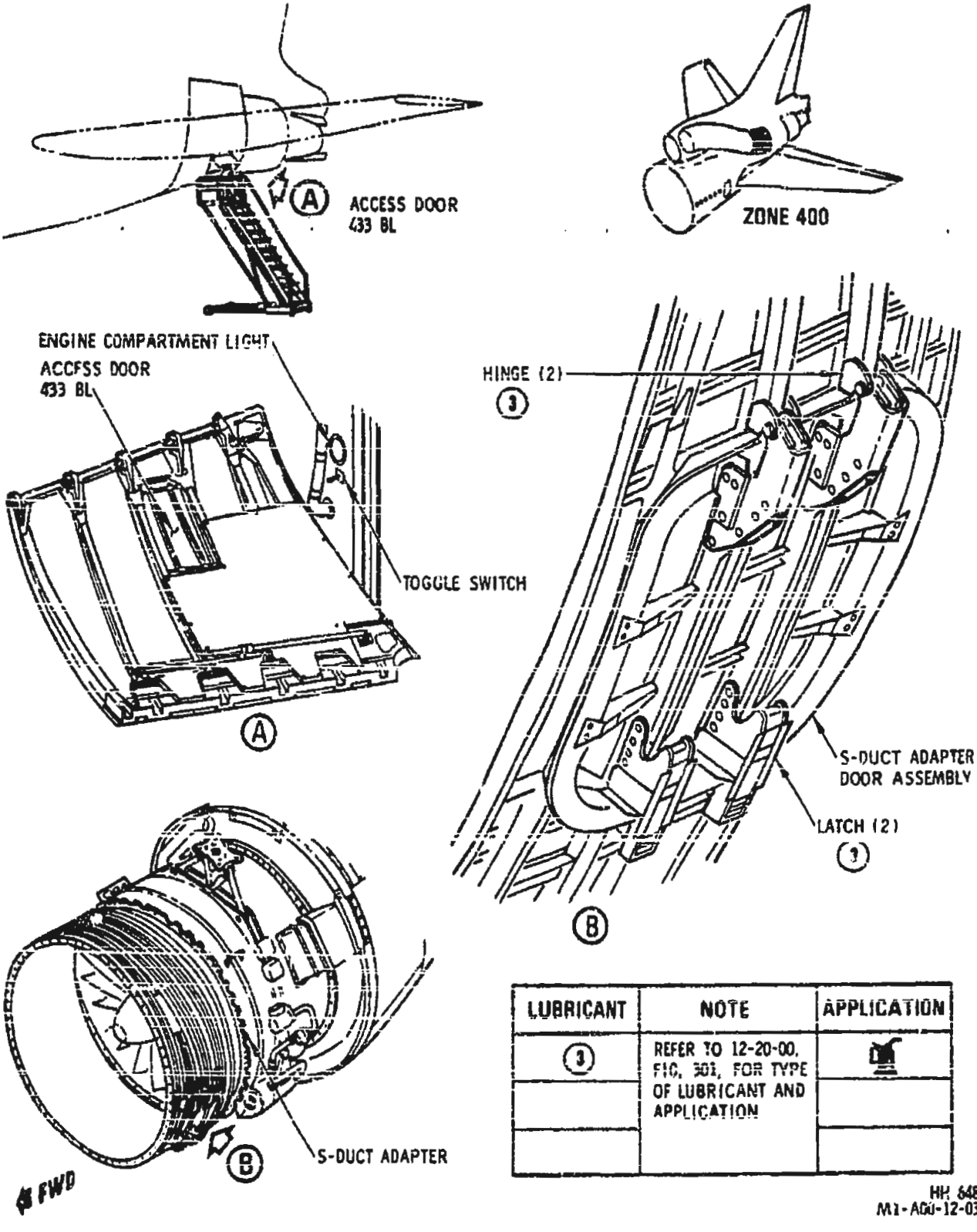
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

IH 4966
MI-0101-12-029

Engine No. 2 Cowling Lubrication
Figure 301

EFFECTIVITY: ALL

050



LUBRICANT	NOTE	APPLICATION
3	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

HR 6489
M1-A6U-12-034

Air Intake (S-duct) Adapter Door Assembly Lubrication
Figure 301

ENGINE_EXHAUST_SYSTEM_LUBRICATION_-_SERVICING

1. Equipment_and_Materials

Grease, MIL-G-23827 or MIL-G-21164C or D.T.D.5598 or D.T.D.5527A

Maintenance Platform CP20309 or XUT37594, or Spacer PN XUT.42526 and Side piece PN XUT.42527, or equivalent

2. Referenced_Procedures

72-03-00 Gas Generator Fairings - Removal and Installation

78-30-00 Thrust Reverser - Servicing

CR 78-30-00 Thrust Reverser - Adjustment and Test

78-31-08 Engine Mounted Translating Flexible Drives - Removal/Installation

R 78-31-20 Deflector Vane (Cascade) - Maintenance Practices

R Service Bulletins Referred To:

R SB78-5094 - Thrust Reverser - Translating Cowl Screwjacks
R Installation - Screwjack Bearings With Addition of Lubrication
R Nipples

3. Servicing

A. Lubricate Thrust Reverser System Drives

WARNING: ENSURE THRUST REVERSER SYSTEM IS LOCKED IN REQUIRED POSITION (REF. 78-30-00, SERVICING) WHILE WORK IS IN PROGRESS.

CAUTION: SOLVENTS MUST NOT BE USED FOR CLEANING FLEXIBLE SHAFTS.

(1) Tag engine power control levers and APU/GND AIR REVERSER switches.

(2) Open and tag appropriate THRUST REVERSE circuit breaker on pilots overhead circuit breaker panel CB1, zone 210.

(3) Open and tag appropriate START AIR VALVE circuit breaker on Flight Engineer/Second Officers aft circuit breaker panel CB3, zone 215.

(4) Tag appropriate ENGINE START panel switchlights.

R R (5) Lubricate cold stream reverser drives - translating cowl flex drives, air motor to gearboxes as follows:

R (a) Position maintenance platform in cold stream duct.

R (b) Enter cold stream duct and remove interservices LH and RH access panels and support structure LH and RH access panels (Ref. 72-03-00).

CR CR CR (c) Refer to Figure 301, disconnect flexible drives (Ref. 78-31-08) from translating cowl upper gearboxes and from air motor output drive pads.

R (d) Remove grease from shaft core using clean cloth. A brush may be used on areas where grease is caked or dried out.

R (e) Apply grease along entire shaft covered by casing. Evenly distribute grease until no bare metal is visible.

CR CR CR (f) Position each flexible shaft core in its casing. Connect each flexible drive to its appropriate drive pad and gearbox (Ref. 78-31-08).

R (g) Fit support structure LH and RH access panels and interservices LH and RH access panels (Ref. 72-03-00, Removal and Installation).

R (h) Remove maintenance platform.

R R R (6) Remove tags from power control lever, APU/GND AIR TO REVERSER toggle switches, and ENGINE START panel switchlights.

R R (7) Remove tags and close circuit breakers opened in Steps 3A(1) thru (4).

R R (8) Unlock and reactivate thrust reverser system (Ref. 78-30-00, Servicing).

CR CR (9) Pneumatically cycle thrust reverser system (Ref. 78-30-00, Adjustment/Test) through three cycles.

R R B. Lubricate Translating Cowl Screwjacks Rear Bearing - Engines With SB78-5094 as follows:

R WARNING: ENSURE THRUST REVERSER SYSTEM IS LOCKED IN FORWARD THRUST POSITION WHILE WORK IS IN PROGRESS.

(1) Deactivate and tag thrust reverser and associated systems and fit thrust reverser locks (Ref. 78-30-00, Servicing).

(2) Position protective work mat in cold stream duct.

R R (3) Refer to Figure 301, using grease gun, inject only MIL-G-23827, or DTD 5598 (OMAT item No. 401) grease (sufficient to ensure that clean grease extrudes from screwjack rear bearing front seal) into translating cowl screwjacks rear bearing grease nipple at screwjack positions 2 through 5.

Access to translating cowl screwjacks rear bearing grease nipple at screwjack positions 1 and 6 can only be gained with thrust reverser in reverse thrust.

NOTE: The translating cowl screwjacks are numbered clockwise from the top viewed from the rear.

(4) Remove protective work mat from cold stream duct.

(5) Unlock and reactivate thrust reverser and associated systems (Ref. 78-30-00, Servicing).

(6) Operate thrust reverser to reverse thrust position (Ref. 78-30-00, Adjustment/Test).

WARNING: ENSURE THRUST REVERSER SYSTEM IS LOCKED IN REVERSE THRUST POSITION WHILE WORK IS IN PROGRESS.

(7) Deactivate and tag thrust reverser and associated systems and fit thrust reverser locks (Ref. 78-30-00, Servicing).

(8) Remove sufficient deflector box assemblies (Ref. 78-31-20) to gain access to translating cowl screwjacks rear bearing grease nipple at screwjack positions 1 and 6.

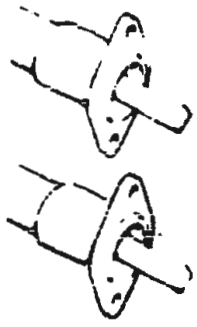
R R (9) Using grease gun, inject only MIL-G-23827, or DTD 5598 (OMAT item No. 401) grease into translating cowl screwjacks rear bearing grease nipple at screwjack positions 1 and 6 until clean grease extrudes from rear bearing front seal.

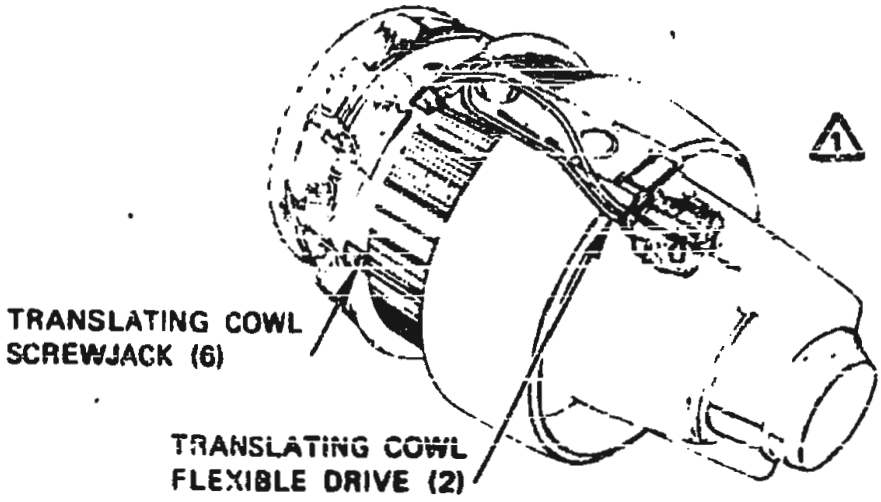
(10) Install deflector box assemblies (Ref. 78-31-20) removed in Step 3B(8).

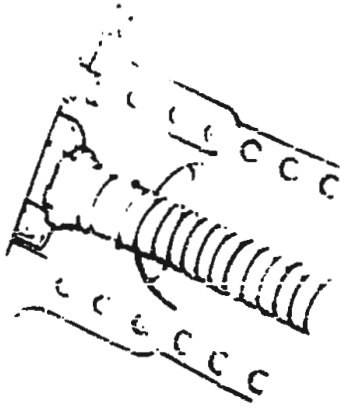
(11) Wipe off excess grease from translating cowl screwjacks rear bearing at screwjack positions 1 through 6.

(12) Unlock and reactivate thrust reverser and associated systems (Ref. 78-30-00, Servicing).

(13) Operate thrust reverser to forward thrust position (Ref. 78-30-00, Adjustment/Test).







1 NOTE:
THE HOT STREAM SPOILER HAS BEEN REPLACED BY A NEW 11° AFTERBODY.

263078
REF. M1-0000-12-181

CR
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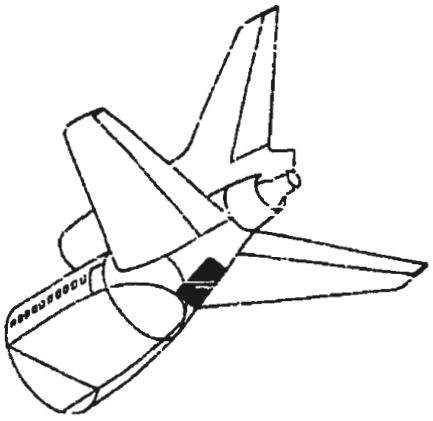
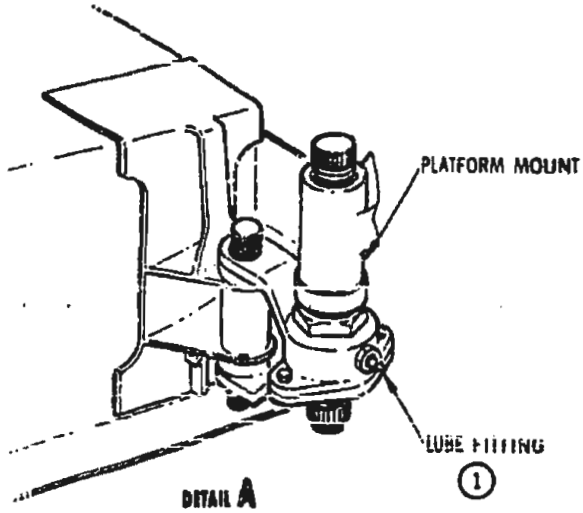
CR

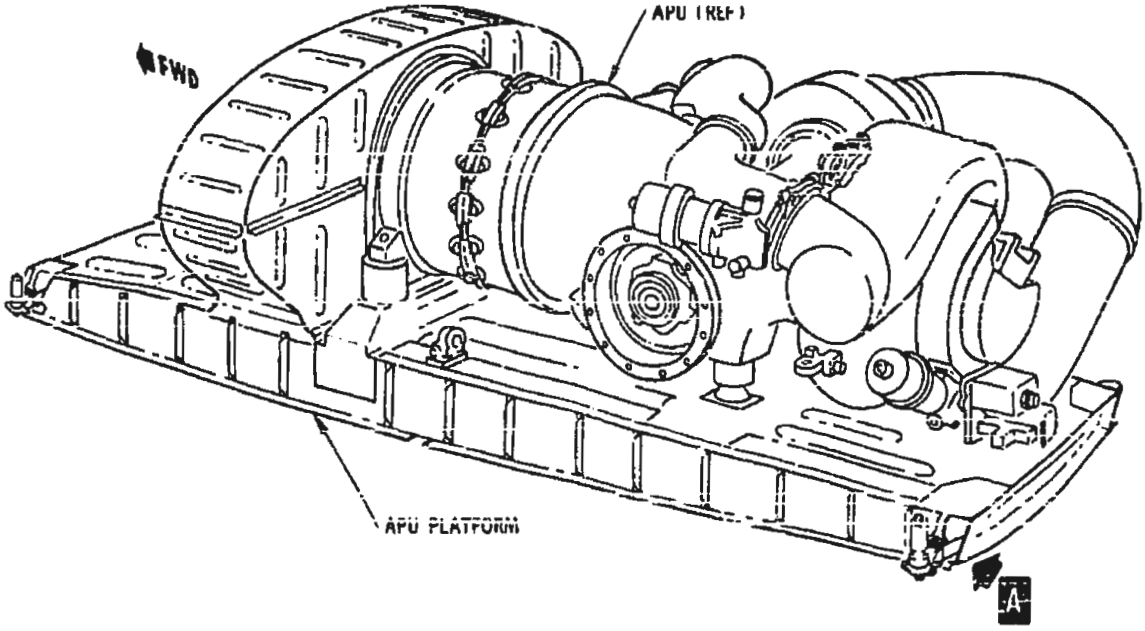
Engine Exhaust System Lubrication
Thrust Reverser Drive System
Figure 301

R
R
001B

EFFECTIVITY: ALL







APU ACCESS

PANEL	TYPE	FASTENER	ACCESS HEIGHT (APPROX)
319AL	HINGED	LATCH	13 FT 6 IN.
319BR	HINGED	LATCH	13 FT 6 IN.
319CL	HINGED	LATCH	13 FT 6 IN.
319DR	HINGED	LATCH	13 FT 6 IN.

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

IMI 4526
M1-A00-12-017

Auxiliary Power System Lubrication - APU Platform Mount
Figure 301

EQUIPMENT/FURNISHINGS LUBRICATION

1. Servicing

Secure the airplane in a clean area suitable for lubrication servicing.

Servicing equipment should include grease guns, oil cans, brushes, clean cloths and other equipment required for proper lubrication.

The following components require lubrication:

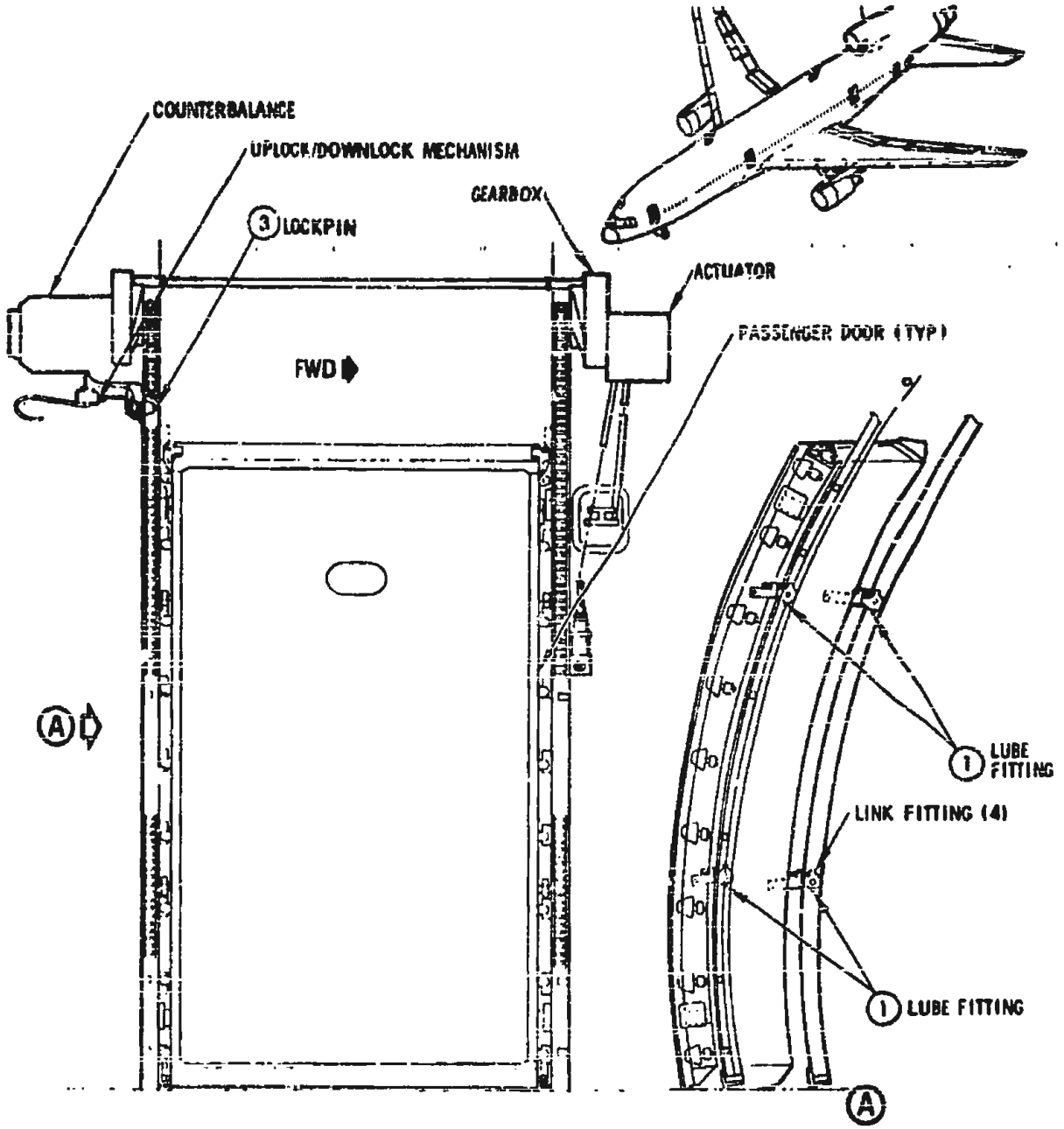
R A. Passenger Doors (Ref. 12-22-41)

R B. Galley Door (G-1) (Ref. 12-22-42)

R C. Cargo Doors (Ref. 12-22-43)

R D. Ram Air Turbine Actuator (Ref. 12-22-46)

R E. Overhead Coat Stowage Module (Ref. 12-22-45)



LUBRICANT	NOTE	APPLICANT
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

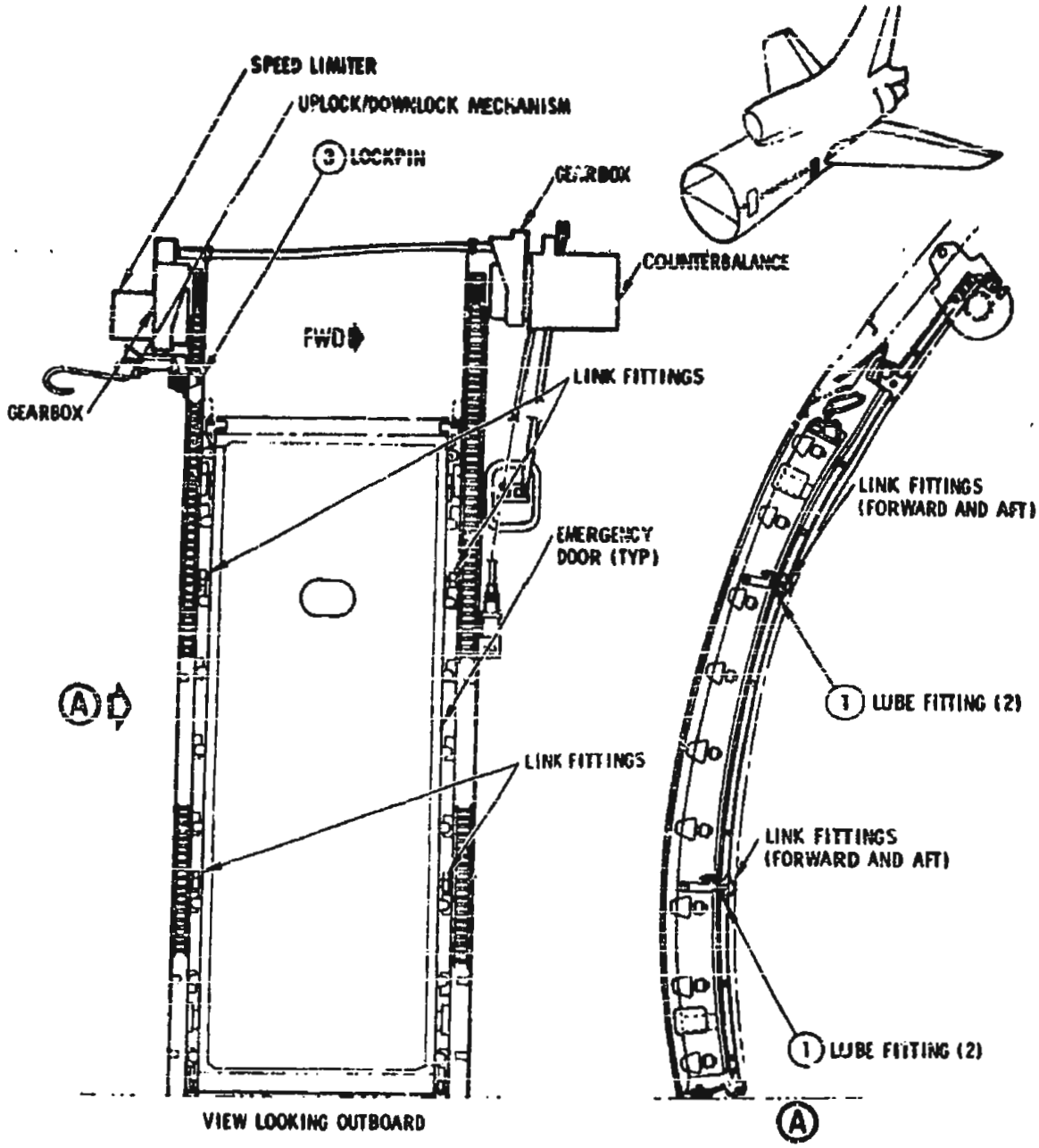
M1-0002-12-020

R
R

Passenger Door Lubrication
Figure 301

EFFECTIVITY: ALL

0018



LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

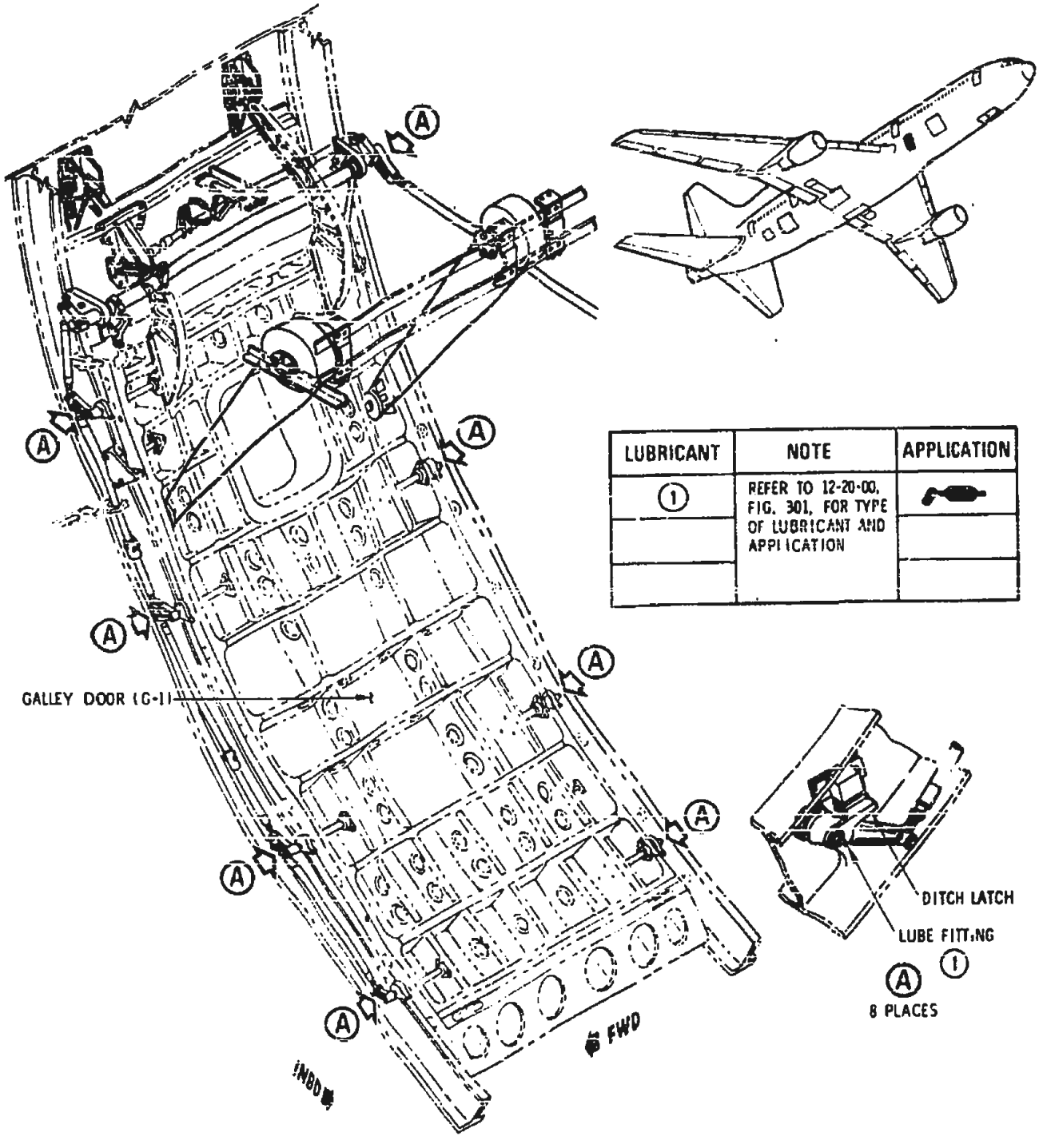
M2-0002-12-385

R
R

Emergency Door Lubrication
Figure 302

EFFECTIVITY: ALL

001B



LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

HH 4611
M1-A00-12-015

Galley Door (G-1) Ditch Latch Lubrication
Figure 301

R

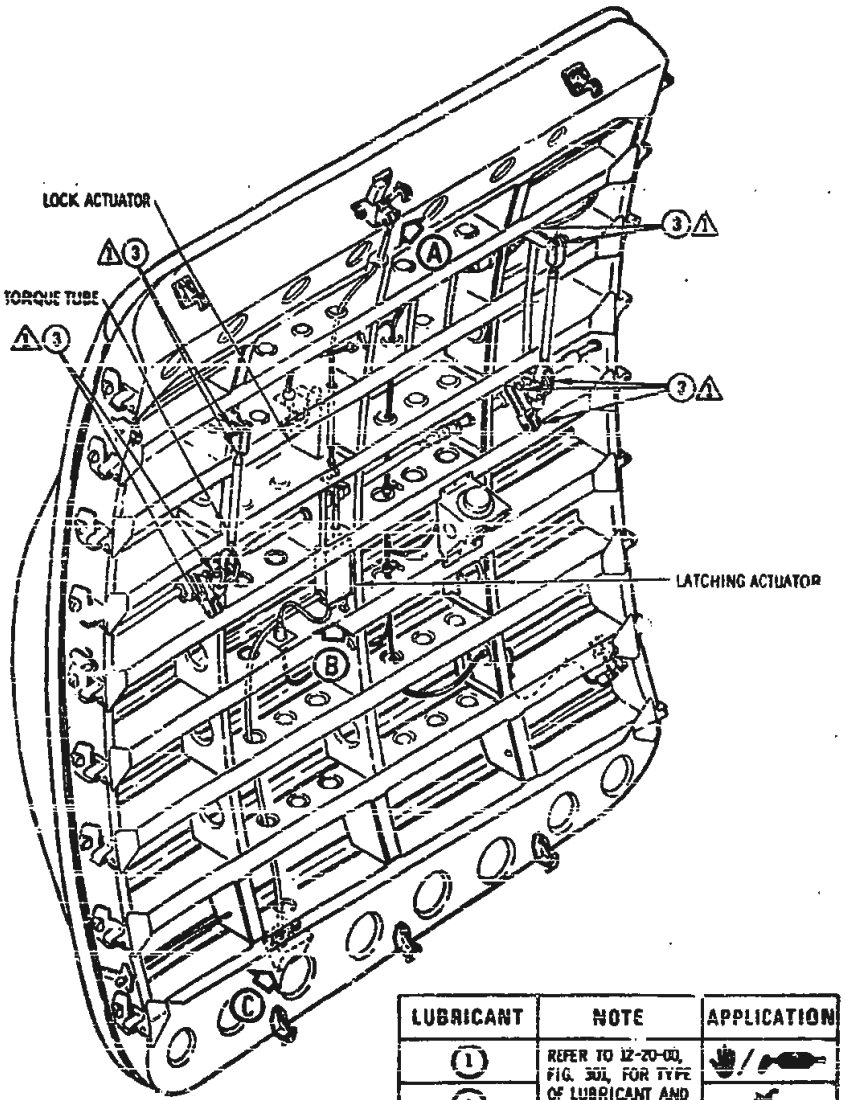
CARGO DOOR LUBRICATION

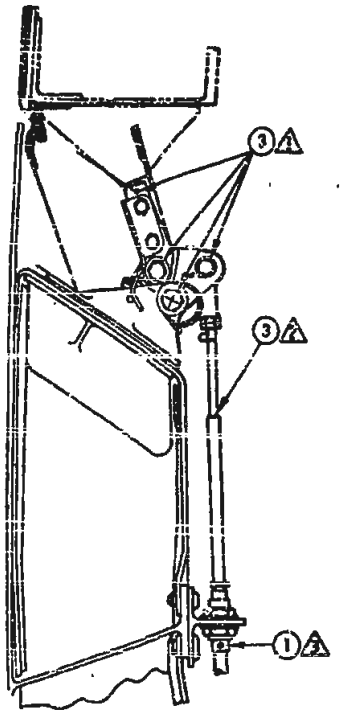
FIGURE DELETED

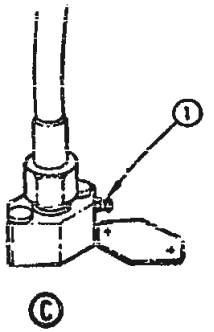
CR C-1 and C-2 Cargo Door Lubrication
CR Figure 301 (Sheet 1)

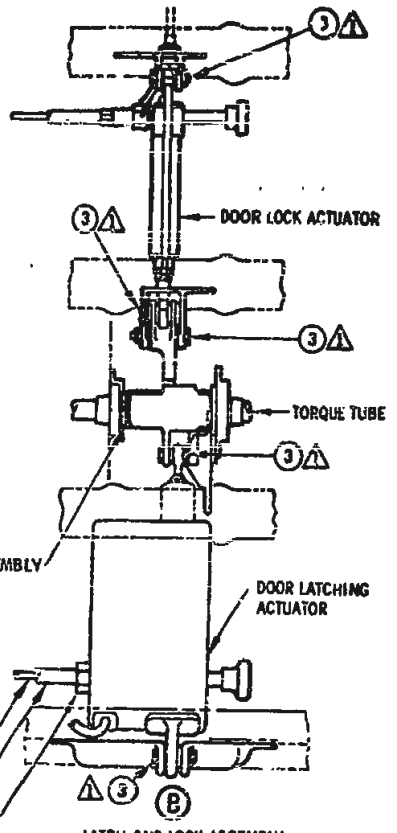
EFFECTIVITY: 001-031 WITHOUT SB52-088

001B









LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

NOTE

1. BUSHINGS AND BEARINGS
2. LUBE CABLE AND ACTUATE TO ALLOW OIL TO PENETRATE
3. USE GREASE GUN WITH FLUSH GREASE FITTING ADAPTER ON CABLES PN 741486-113, AND SUBSEQUENT
4. WITHDRAW CORE FROM HOUSING AT THIS END. LUBRICATE ALONG FULL LENGTH OF CORE

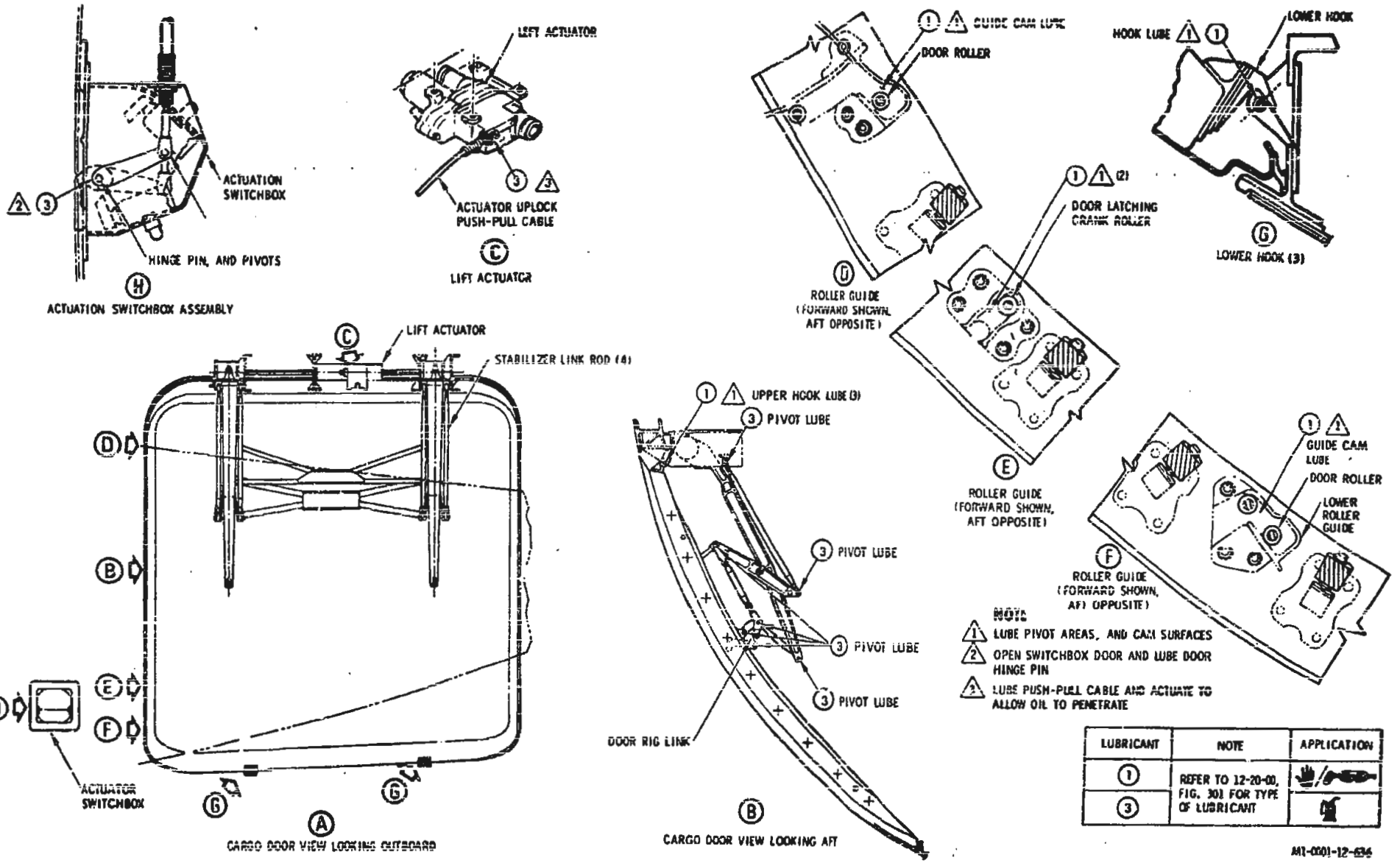
A41-0002-12-016

CR
CR

C-1 and C-2 Cargo Door Lubrication
Figure 301 (Sheet 1)

EFFECTIVITY: 001, 003-013, 015-031 WITH SB52-032 AND SB52-088

001B

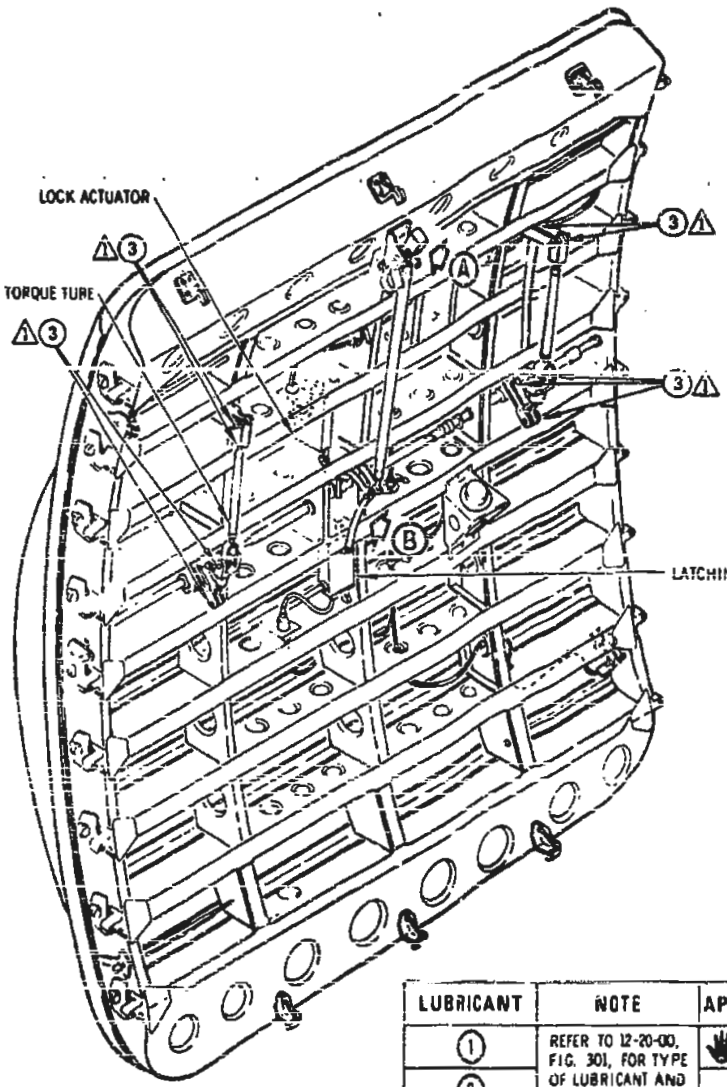


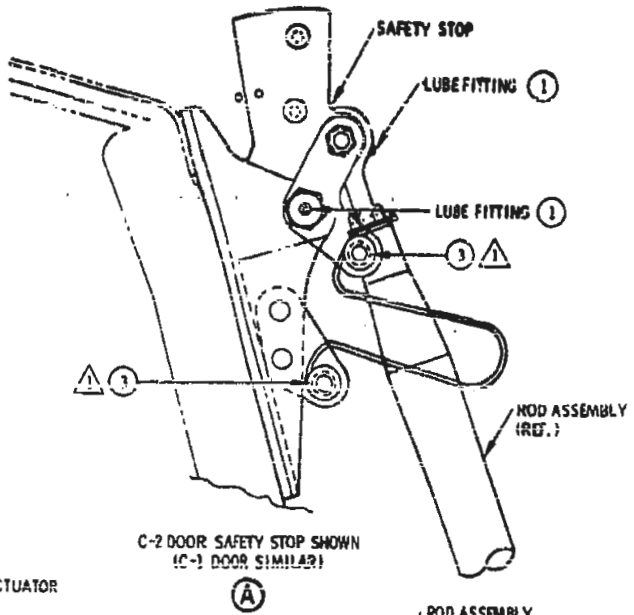
CR
CR

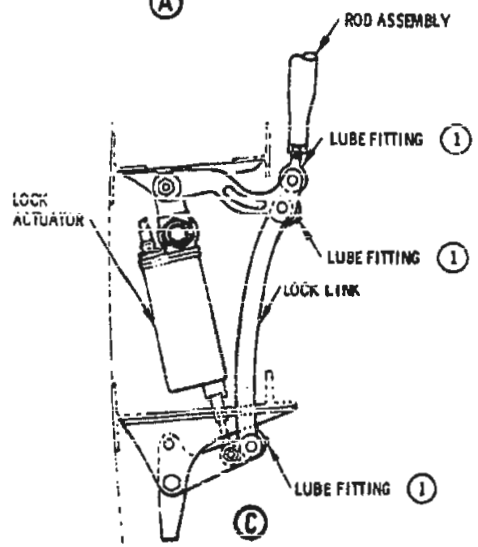
C-1 and C-2 Cargo Door Lubrication
Figure 301 (Sheet 2)

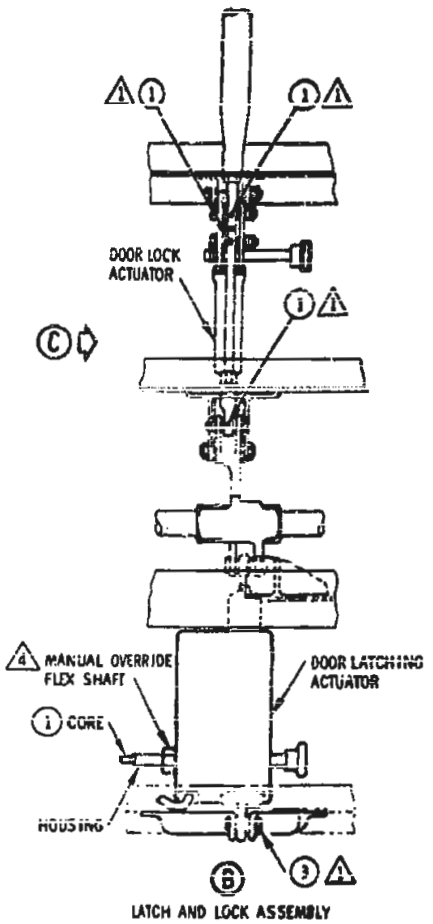
EFFECTIVITY: ALL

001B









LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
(3)		

NOTE

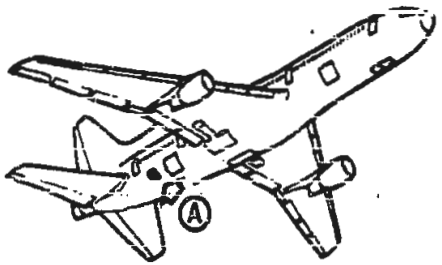
1. LUBE BUSHINGS AND BEARINGS
2. LUBE CABLE AND ACTUATE TO ALLOW OIL TO PENETRATE
3. USE GREASE GUN WITH FLUSH GREASE FITTING ADAPTER ON CABLES PN 741486-113, AND SUBSEQUENT
4. WITHDRAW CORE FROM HOUSING AT THIS END. LUBRICATE ALONG FULL LENGTH OF CORE

M1-0000-12-716

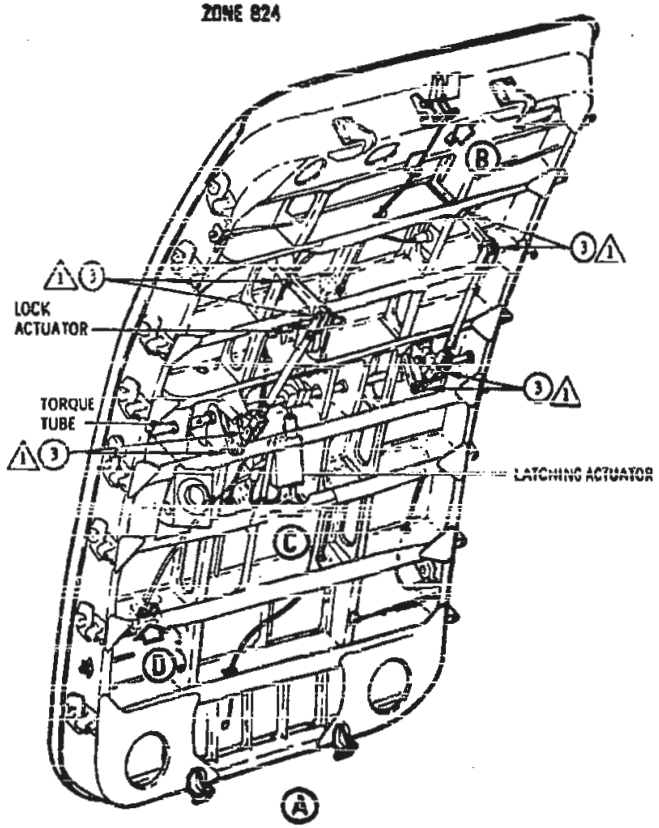
R C-1 and C-2 Cargo Door Lubrication
R Figure 301 (Sheet 3)

EFFECTIVITY: 002, 014, 032-999

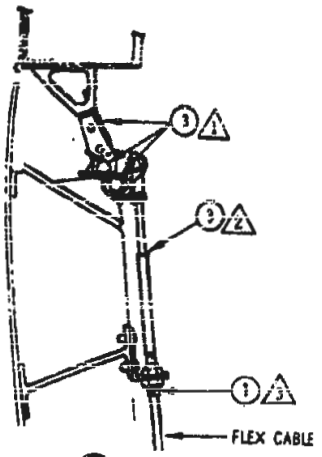
FIGURE DELETED



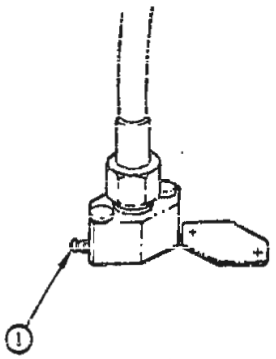
ZONE 824



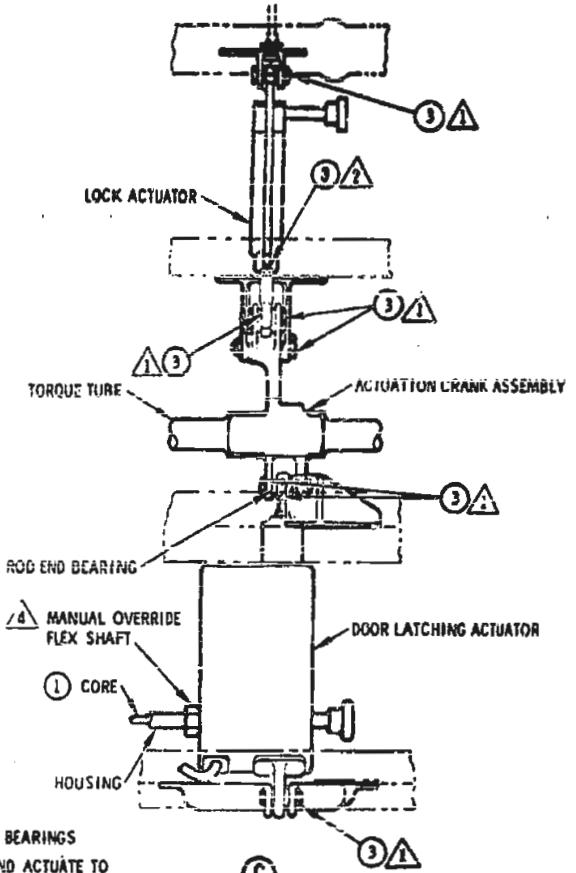
A
AFT CARGO DOOR (C-3)



B
SAFETY STOP



D
MANUAL OVERRIDE FITTING



C
LATCH AND LOCK ASSEMBLY

NOTE

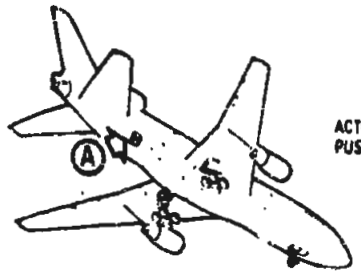
1. BUSHING AND BEARINGS
2. LUBE CABLE AND ACTUATE TO ALLOW OIL TO PENETRATE
3. USE GREASE GUN WITH FLUSH GREASE FITTING ADAPTER ON CABLES PN 741486-117 AND SUBSEQUENT
4. WITHDRAW CORE FROM HOUSING AT THIS END LUBRICATE ALONG FULL LENGTH OF CORE

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

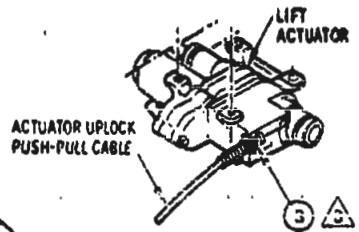
M1-0001-12-615

C C . C-3 Cargo Door Lubrication
Figure 302 (Sheet 1)

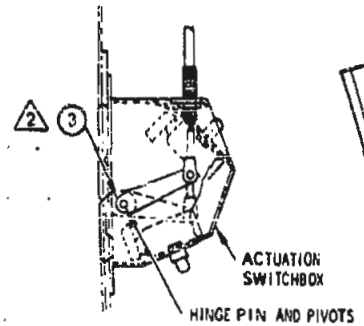
R EFFECTIVITY: 001, 003-013, 015-031 WITH
R SB52-032 AND SB52-088
001B



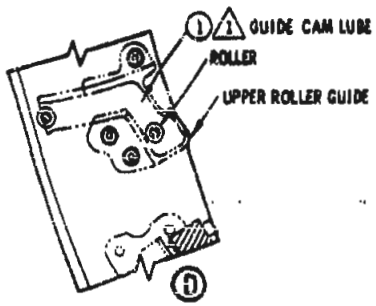
ZONE 824



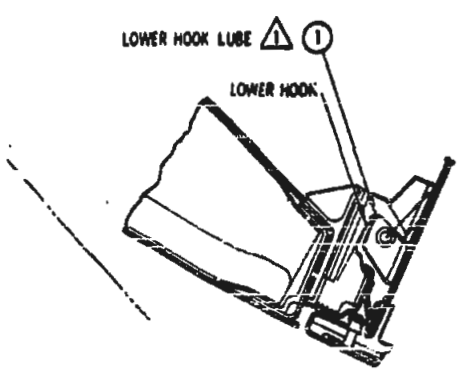
C C-3 DOOR LIFT ACTUATOR



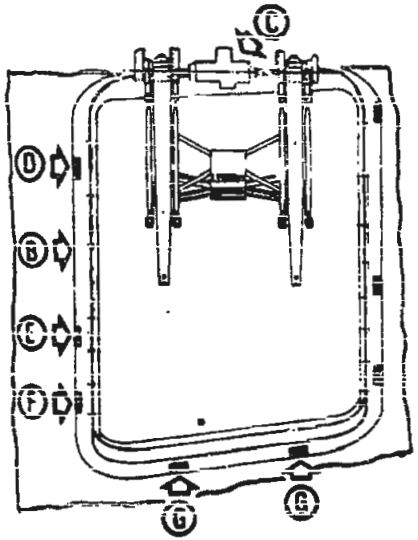
H ACTUATION SWITCHBOX ASSEMBLY



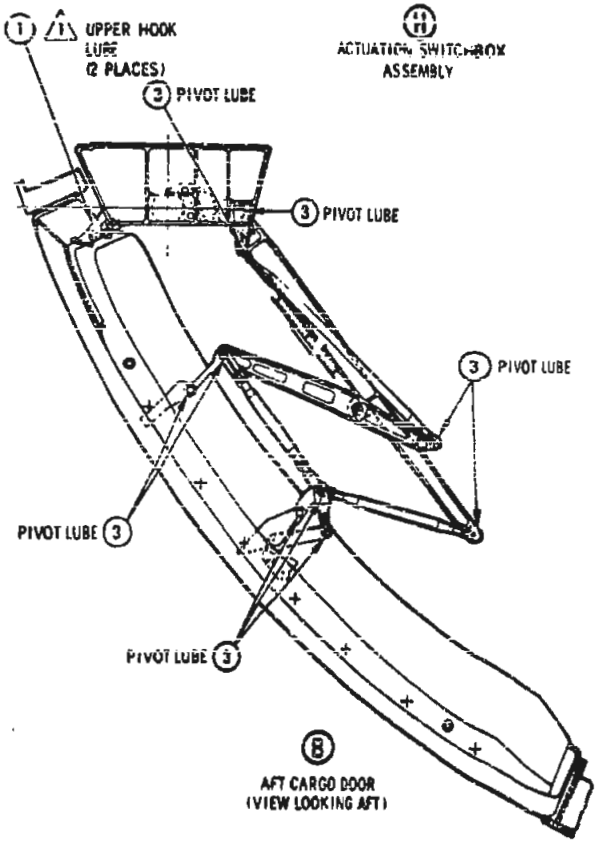
D UPPER ROLLER-GUIDE (FORWARD SHOWN, AFT OPPOSITE)



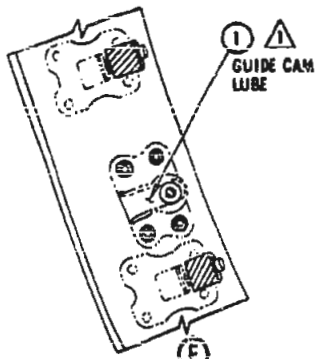
G LOWER HOOK (2 PLACES)



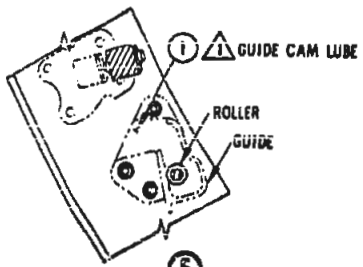
A AFT CARGO DOOR (C-3) (VIEW LOOKING OUTBOARD)



B AFT CARGO DOOR (VIEW LOOKING AFT)



E ROLLER GUIDE (FORWARD SHOWN, AFT OPPOSITE)



F ROLLER-GUIDE (FORWARD SHOWN, AFT OPPOSITE)

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301 FOR TYPE OF LUBRICANT	
3		

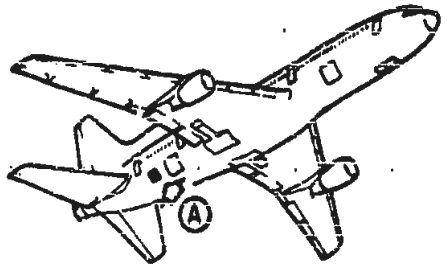
NOTE

1. LUBE HOOK AND CAM SURFACES
2. OPEN SWITCHBOX DOOR AND LUBE DOOR HINGE PIN
3. LUBE CABLE AND ACTUATE TO ALLOW OIL TO PENETRATE

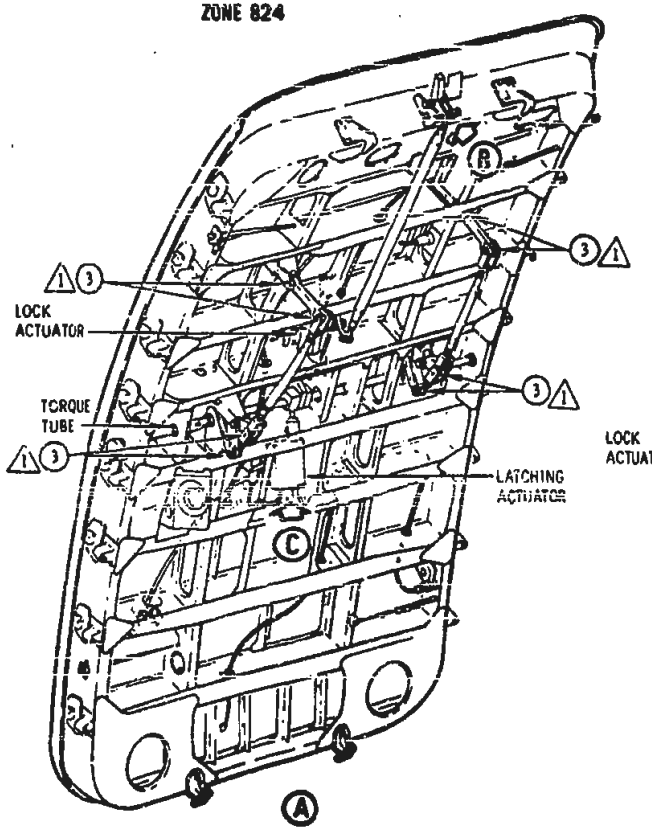
M1-0001-12-697

C C-3 Cargo Door Lubrication
Figure 302 (Sheet 2)

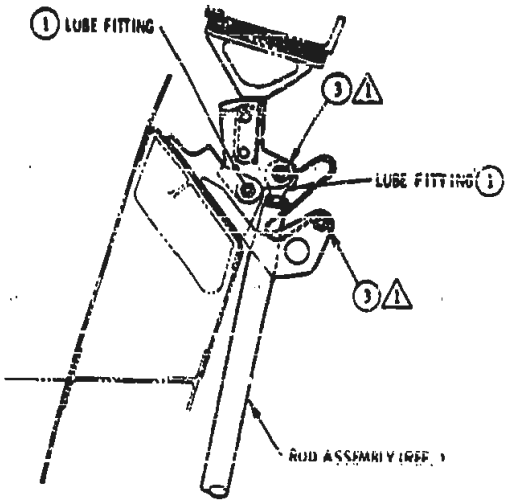
R EFFECTIVITY: ALL
R
0018



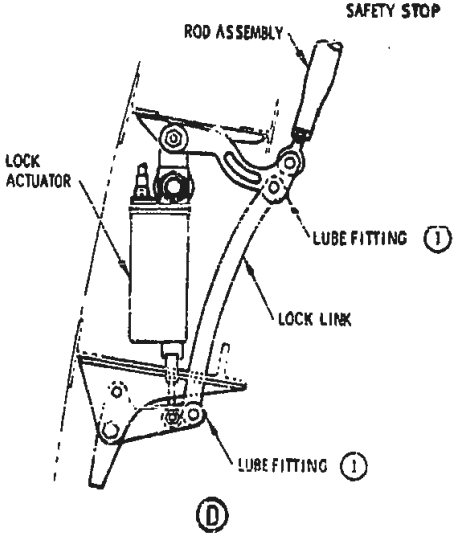
ZONE 824



AFT CARGO DOOR (C-3)

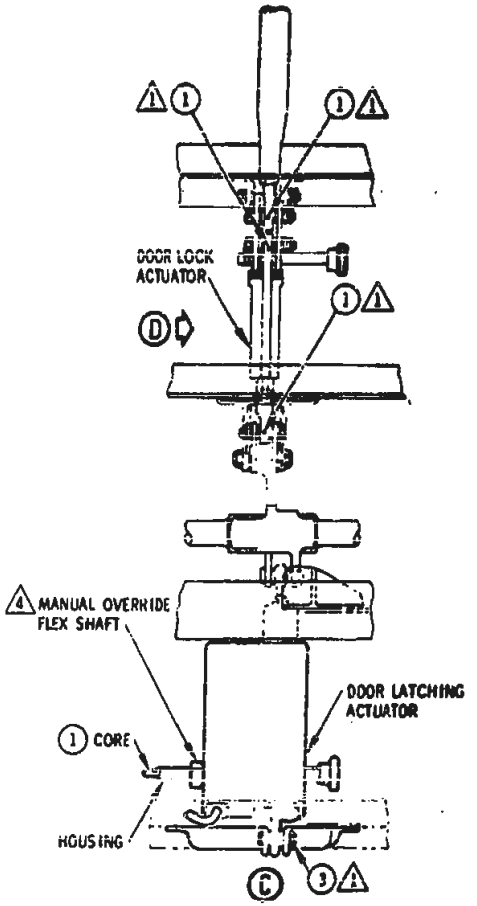


SAFETY STOP



NOTE

1. LUBE BUSHING AND BEARINGS
2. LUBE CABLE AND ACTUATE TO ALLOW OIL TO PENETRATE
3. USE GREASE GUN WITH FLUSH GREASE FITTING ADAPTER ON CABLES PN 7414A5-117 AND SUBSEQUENT
4. WITHDRAW CORE FROM HOUSING AT THIS END LUBRICATE ALONG FULL LENGTH OF CORE



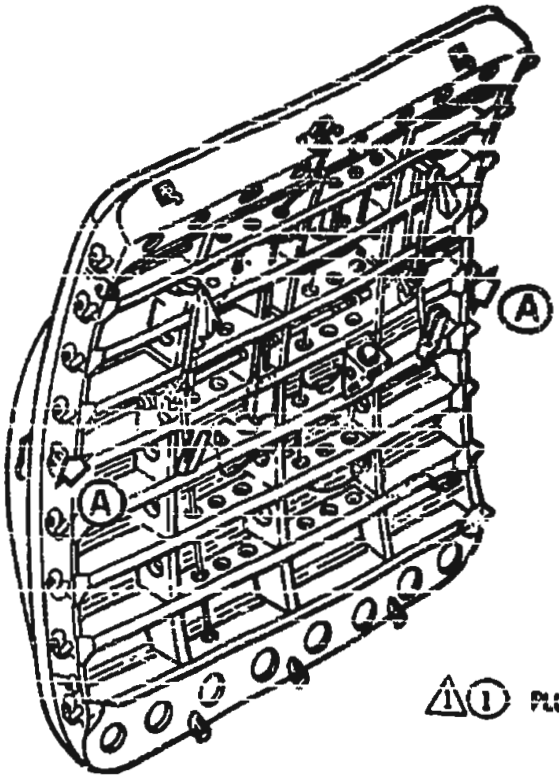
LATCH AND LOCK ASSEMBLY

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

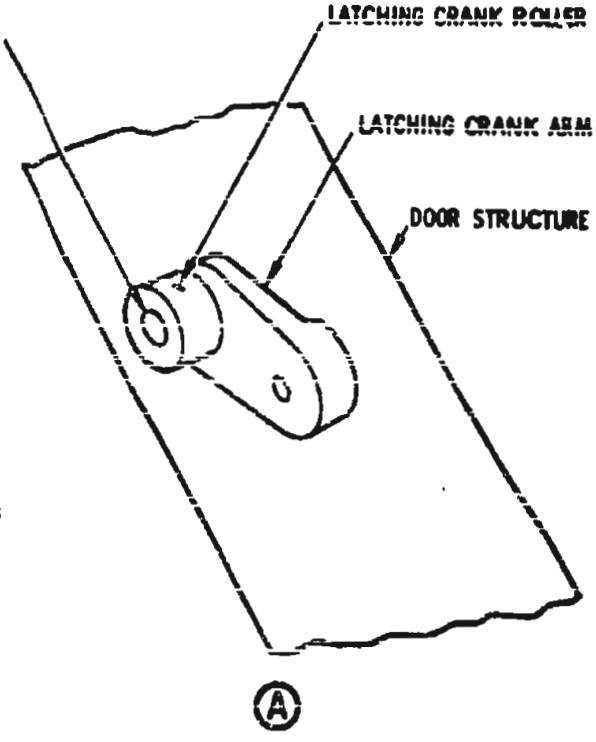
M1-0000-12-717

C-3 Cargo Door Lubrication
Figure 302 (Sheet 3)

EFFECTIVITY: 002, 014, 032-999



C-1 CARGO DOOR
VIEW LOOKING OUTBOARD



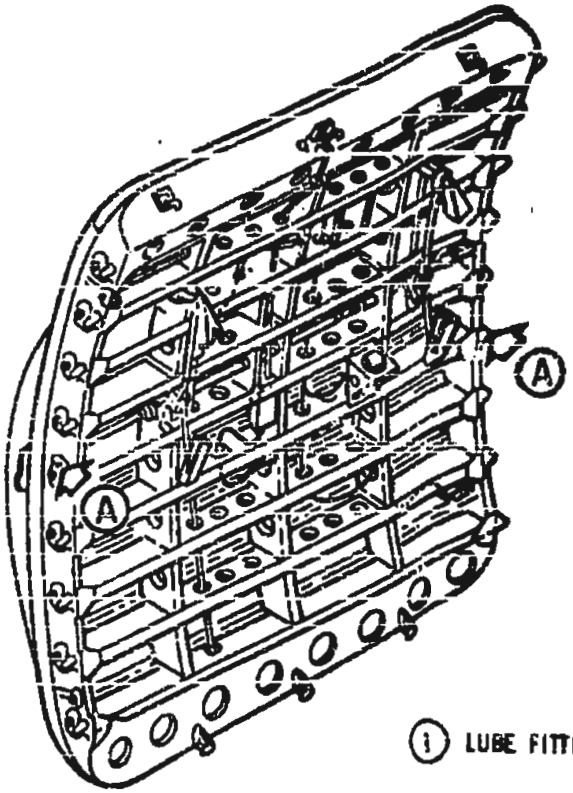
LATCHING CRANK ASSEMBLY

1 REMOVE PLUG AND INSERT TEMPORARY LUBE FITTING. APPLY LUBRICANT - REMOVE FITTING AND INSERT PLUG

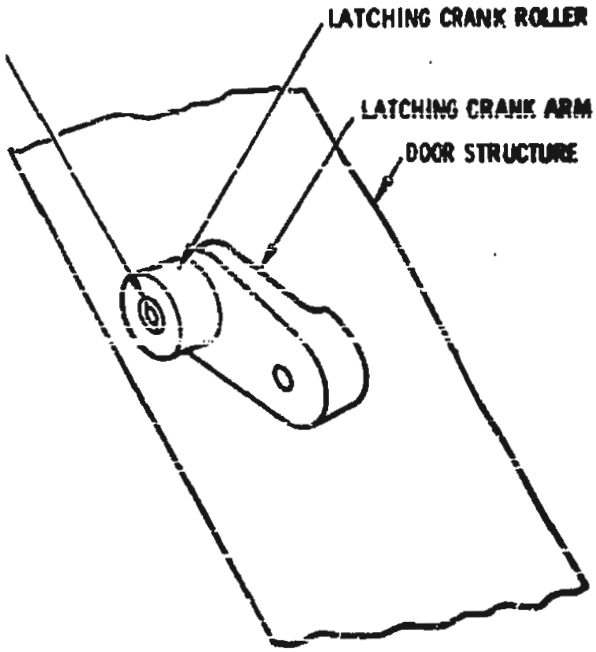
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-G000-12-335

C-1 Cargo Door Latching Crank Lubrication
Figure 303



C-1 CARGO DOOR
VIEW LOOKING OUTBOARD

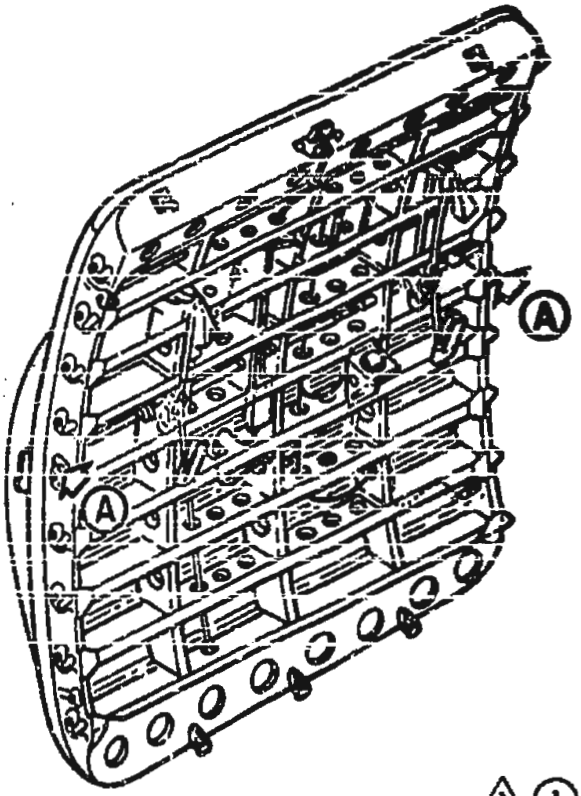


LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301 FOR TYPE OF LUBRICANT	

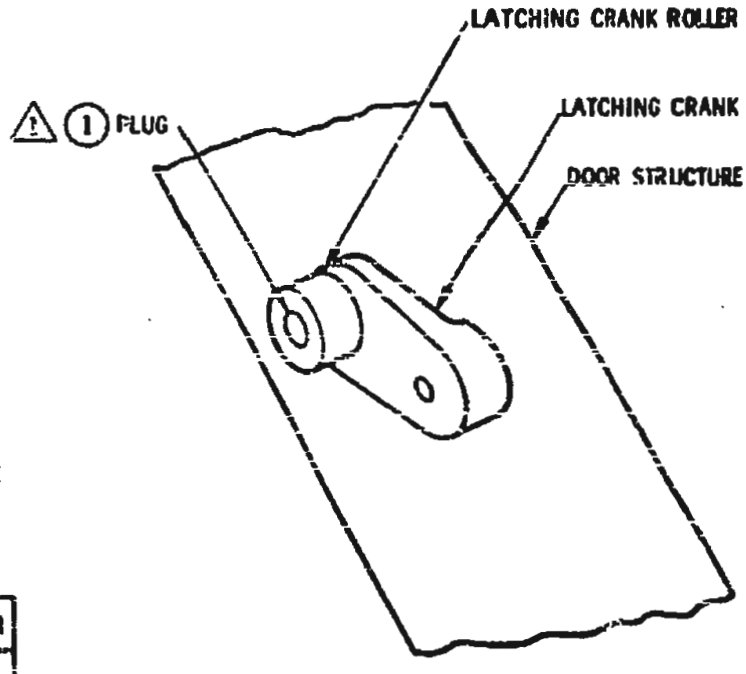
(A)
LATCHING CRANK ASSEMBLY

M1-0000-12-996

C-1 Cargo Door Latching Crank Roller Lubrication
Figure 303



C-2 CARGO DOOR
VIEW LOOKING OUTBOARD



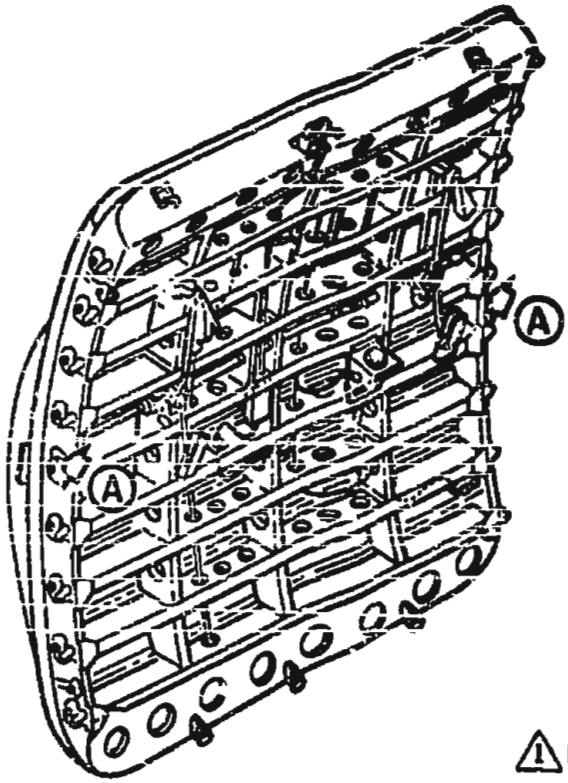
1 REMOVE PLUG AND INSERT TEMPORARY LUBE FITTING. APPLY LUBRICANT. REMOVE LUBE FITTING AND INSERT PLUG

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

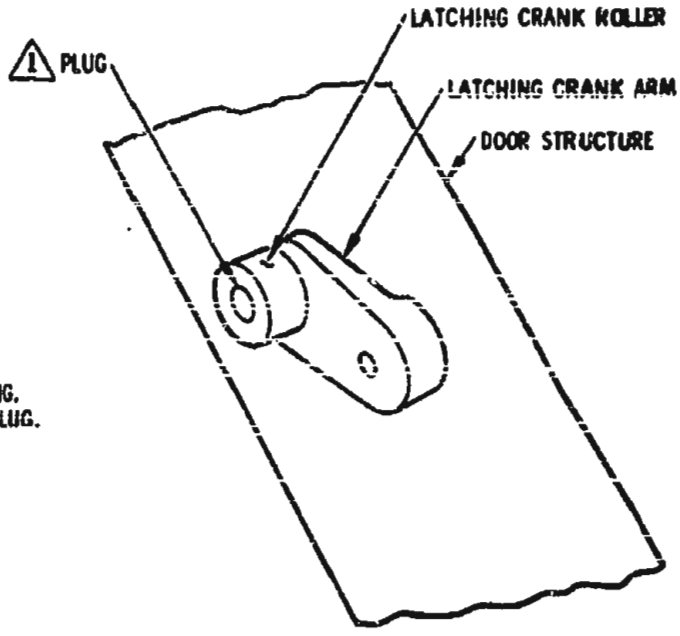
A LATCHING CRANK ASSEMBLY

M1-0000-12-407

C-2 Cargo Door Latching Crank Roller Lubrication
Figure 304



C-2 CARGO DOOR
VIEW LOOKING OUTBOARD



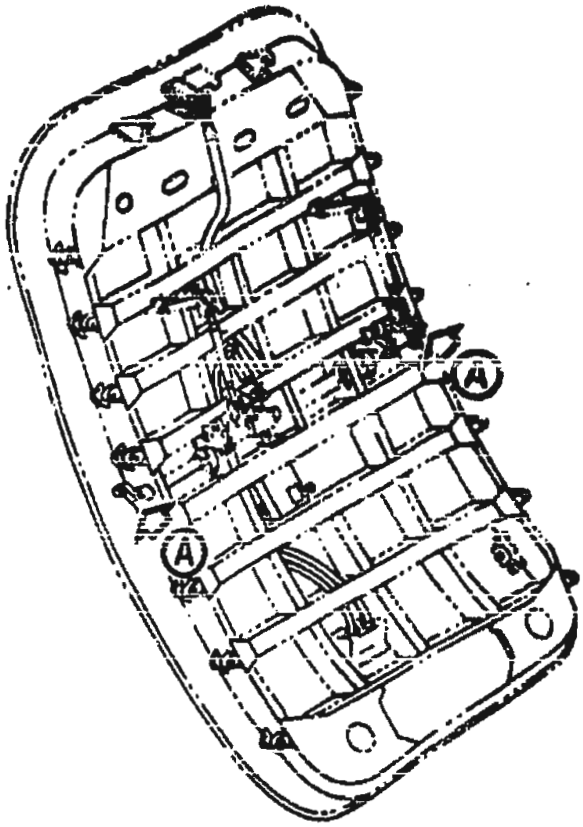
LATCHING CRANK ASSEMBLY

1 REMOVE PLUG AND INSERT TEMPORARY LUBE FITTING. APPLY LUBRICANT - REMOVE FITTING AND INSERT PLUG.

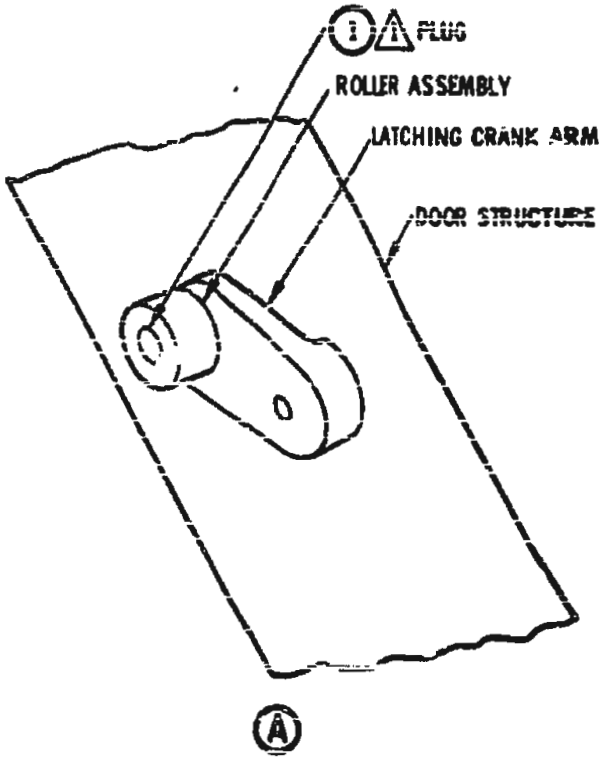
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301 FOR TYPE OF LUBRICANT	

M1-0000-12-479

C-2 Cargo Door Latching Crank Roller Lubrication
Figure 304



VIEW LOOKING OUTBOARD

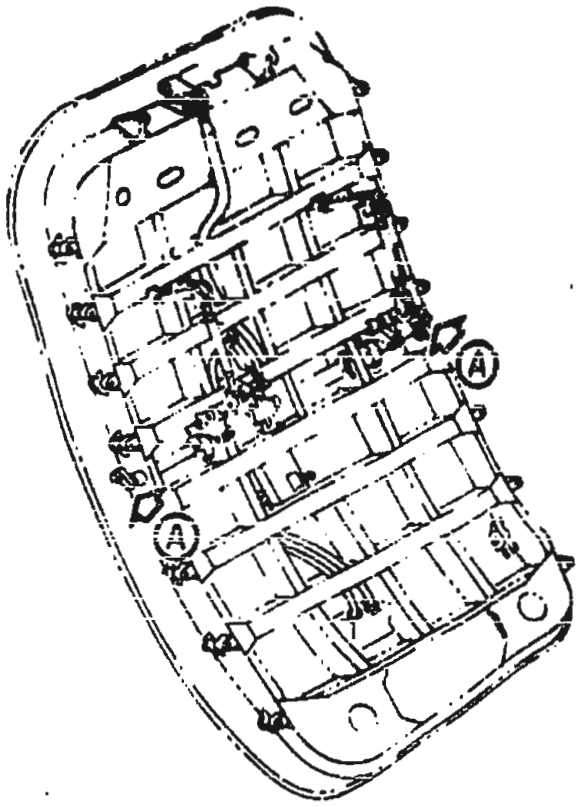


1 REMOVE PLUG AND INSERT TEMPORARY LUBE FITTING. APPLY LUBRICANT. REMOVE LUBE FITTING AND INSERT PLUG

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

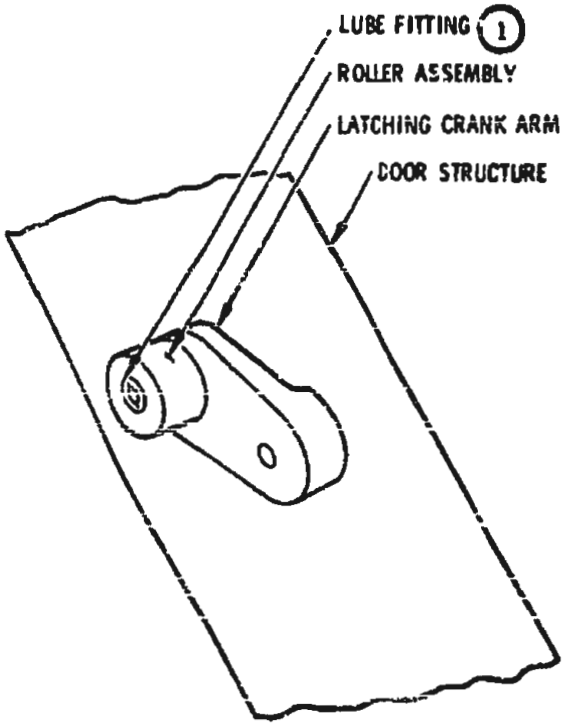
M1-000-12-478

C-3 Cargo Door Latching Crank Roller Lubrication
Figure 305



VIEW LOOKING OUTBOARD

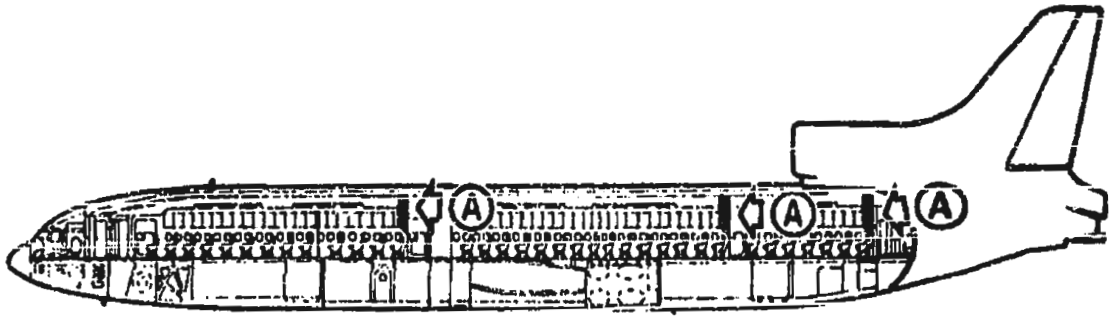
LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301 FOR TYPE OF LUBRICANT	



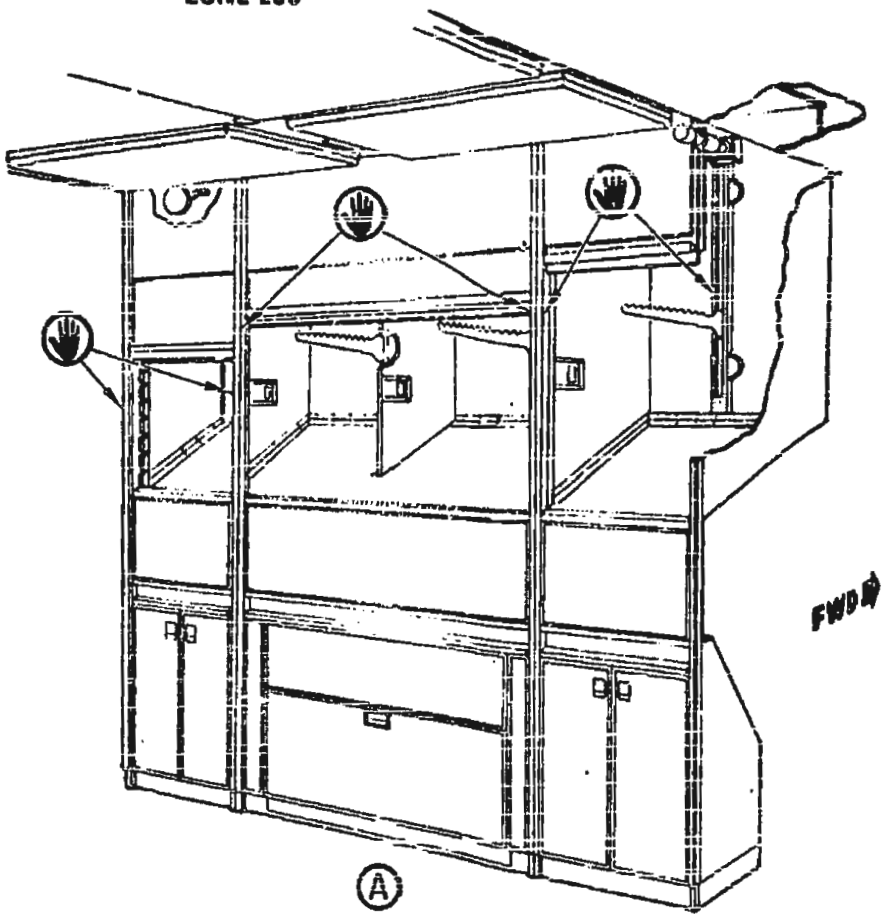
(A) LATCHING CRANK ASSEMBLY

MI-0000-12-460

C-5 Cargo Door Latching Crank Roller Lubrication
Figure 305



ZONE 200



OVERHEAD COAT STOWAGE MODULE (TYP)

LUBRICANT		APPLICATION
LUBRICANT-SOLID FILM (MIL-L-23398)		

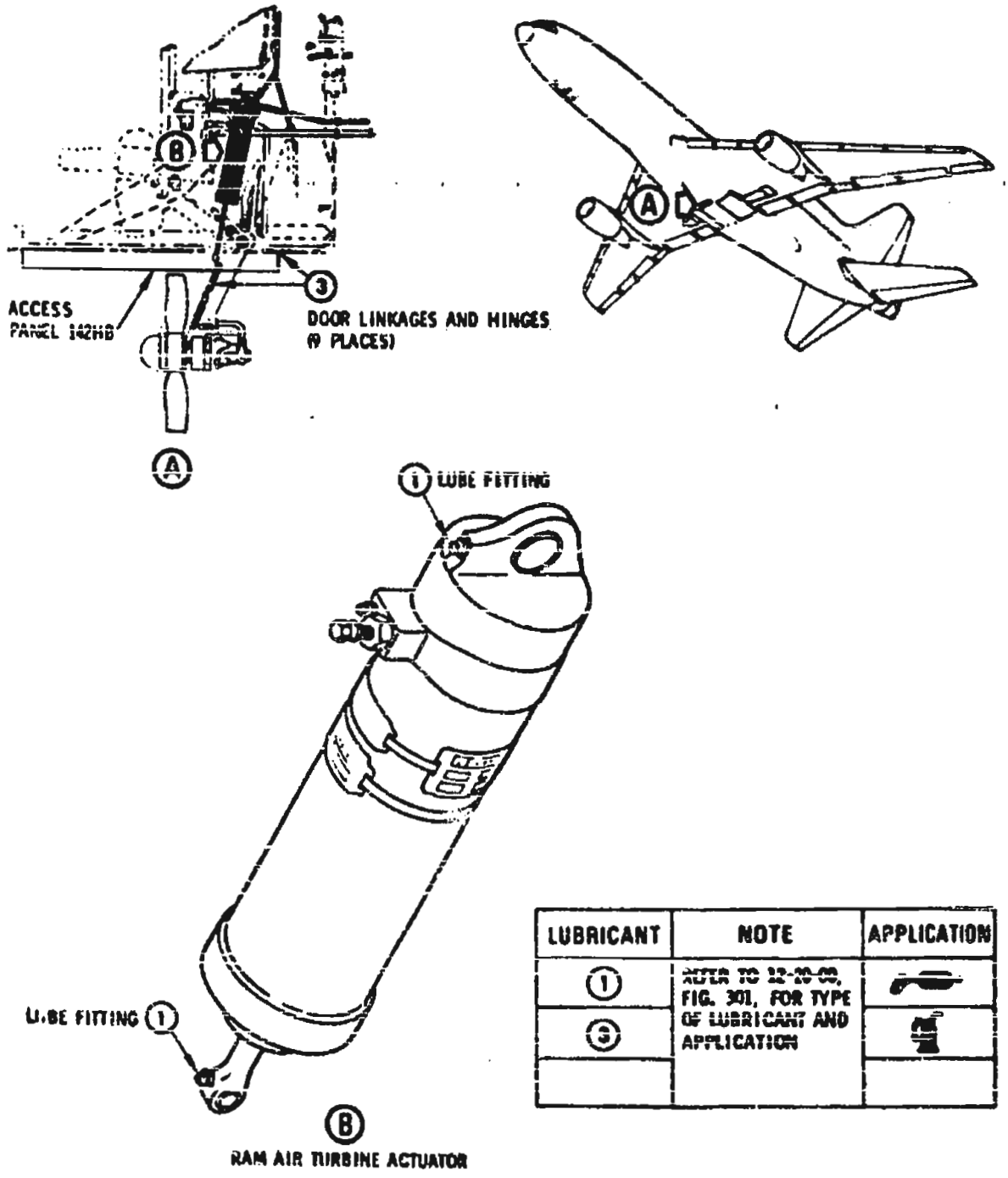
M1-0001-12-048

R
R

Overhead Coat Stowage Module Lubrication
Figure 301

EFFECTIVITY: ALL

001B



LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

M1-0002-12-0/7

R
R

Ram Air Turbine Actuator Lubrication
Figure 301

EFFECTIVITY: ALL

0018

FLIGHT CONTROLS LUBRICATION

1. Servicing

CAUTION: ENSURE ROYCO 11 MS IS NOT USED AS A FLIGHT CONTROL LUBRICANT.

Secure the airplane in a clean area suitable for lubrication servicing.

Servicing equipment should include grease guns, oil cans, brushes, clean cloths and other equipment required for proper lubrication.

Observe flight control maintenance practices safety precautions as outlined in Chapter 27 prior to and during lubrication servicing.

The following components require lubrication:

A. Inboard Fixed Leading Edge Slat Track Roller (Ref. 12-23-01)

B. Outboard Fixed Leading Edge Slat Track Roller (Ref. 12-23-01)

C. Wing Leading Edge Slat Actuators (Ref. 12-23-01)

D. Wing Slat Drive Coupling (Ref. 12-23-01)

E. Inboard Aileron (Ref. 12-23-02)

F. Outboard Aileron (Ref. 12-23-02)

G. Rudder Hinges (Ref. 12-23-10)

R H. On aircraft 001-017,
R Rudder Deflection Limiter and Rudder Actuator (Ref.
R 12-23-10)

R H. On aircraft 018-999,
R Rudder Actuator (Ref. 12-23-10)

I. Rudder Damper (Ref. 12-23-10)

J. Elevator Hinges and Elevator Damper (Ref. 12-23-15)

K. Horizontal Stabilizer Actuator (Ref. 12-23-15)

L. Horizontal Stabilizer Pivot Bearing Support (Ref. 12-23-15)

M. Elevator Drive System (Ref. 12-23-15)

N. Horizontal Stabilizer Mechanical Pitch Feel/Trim (Ref. 12-23-15)

O. Horizontal Stabilizer Electrical Pitch Feel/Trim (Ref. 12-23-15)

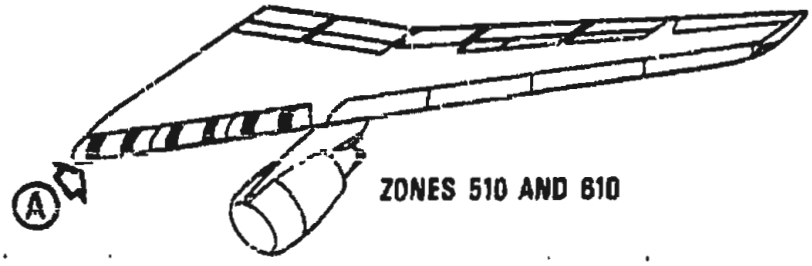
P. Spoilers (Ref. 12-23-20)

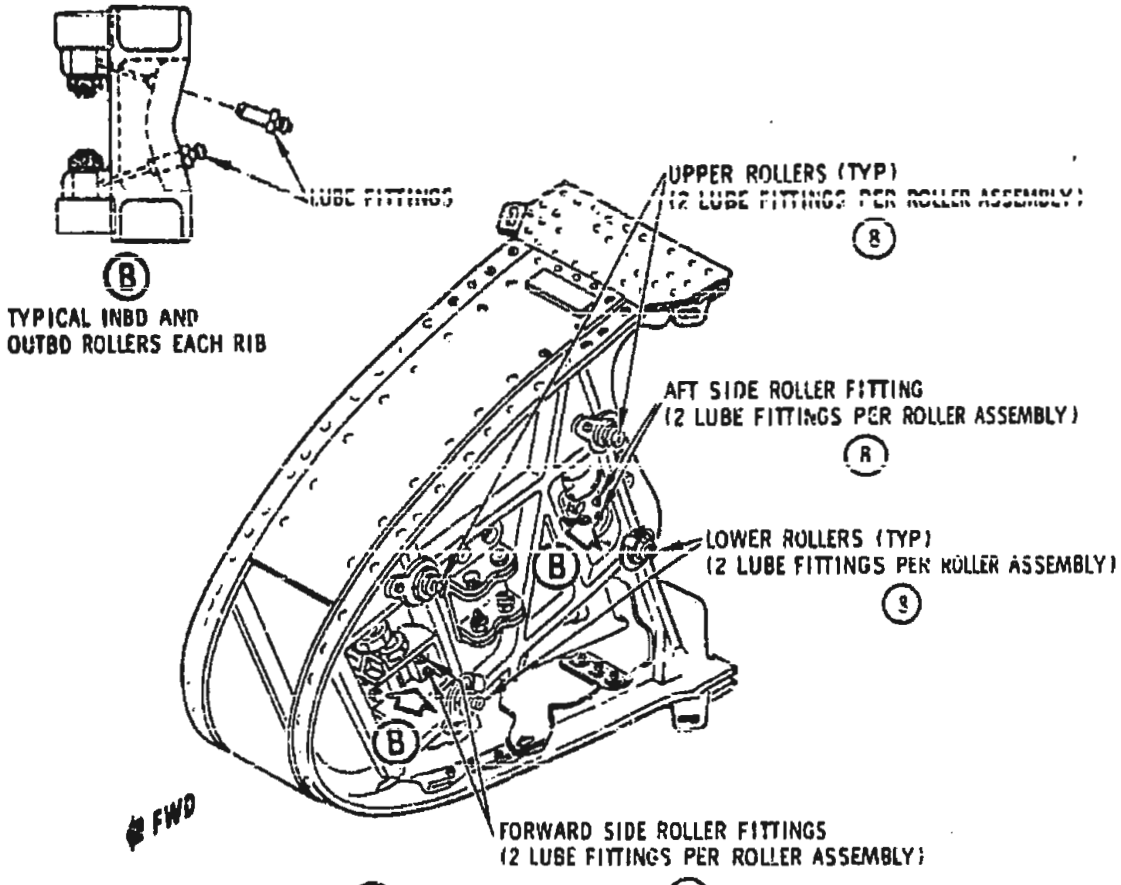
Q. Wing Flap Vanes (Ref. 12-23-20)

R. Wing Flaps (Ref. 12-23-20)

S. Wing Flap Drive System (Ref. 12-23-20)

NOTE: If the lubrication fitting bushing used on the wing flap and flap vane becomes separated from its installed body, a threaded insert may be installed in place of the press fit bushing (Ref. 20-27-02).

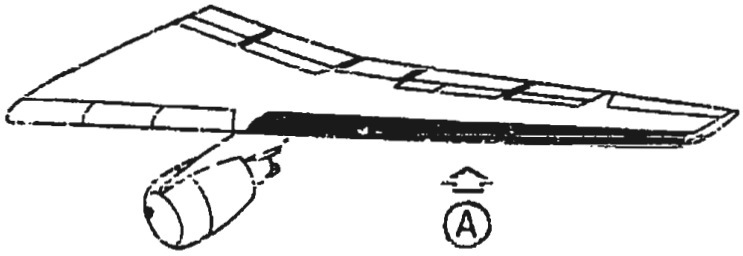




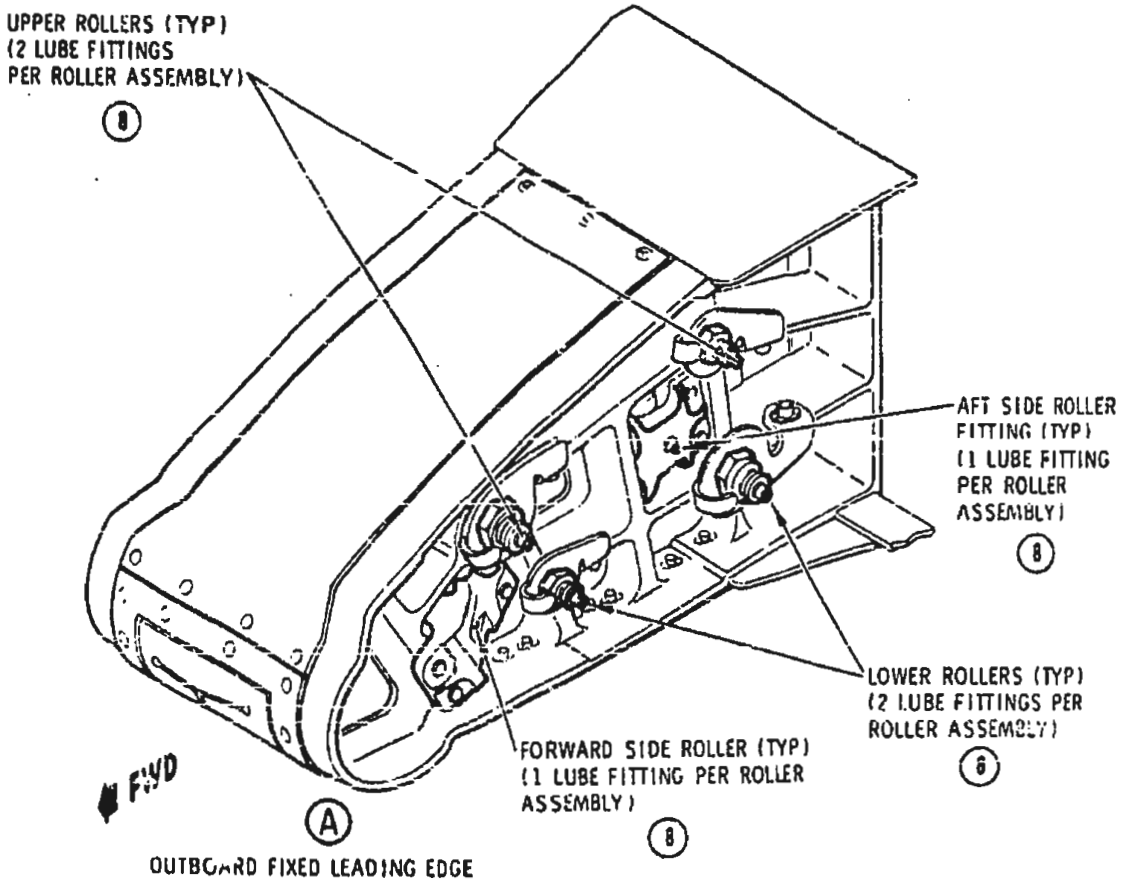
LUBRICANT	NOTE	APPLICATION
(8)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

HH 4525 M1-0102-12-011

R Inboard Fixed Leading Edge Slat Track Roller Lubrication
R Figure 301



ZONES 520 AND 620

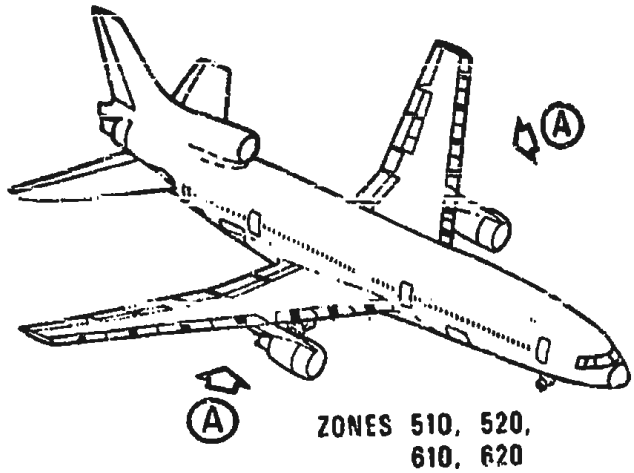


OUTBOARD FIXED LEADING EDGE
SLAT TRACK (8 OUTBOARD RIBS PER
WING, 12 LUBE FITTINGS PER RIB
LEFT SHOWN, RIGHT OPPOSITE

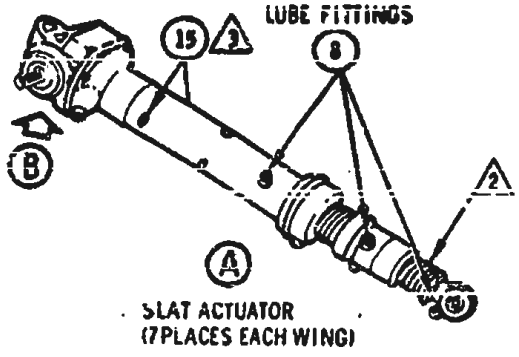
LUBRICANT	NOTE	APPLICATION
(8)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

HH 4571
M1 0102-12-012

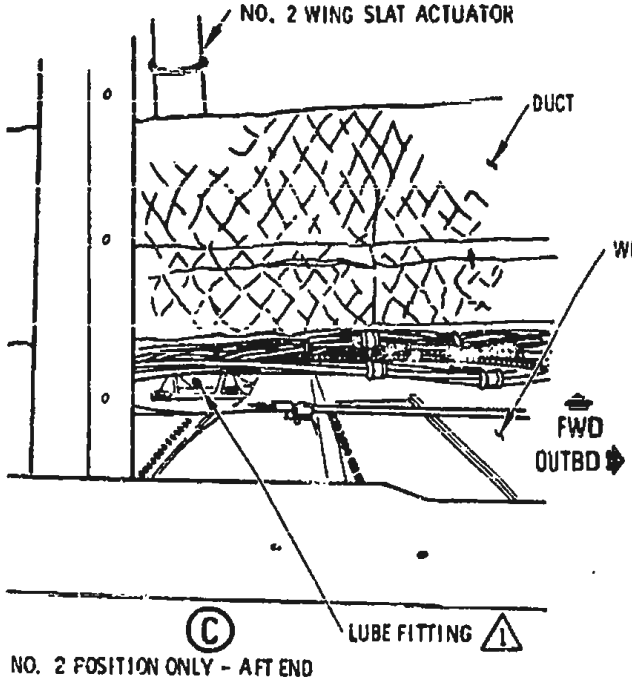
R R **Outboard Fixed Leading Edge Slat Track Roller Lubrication**
Figure 302



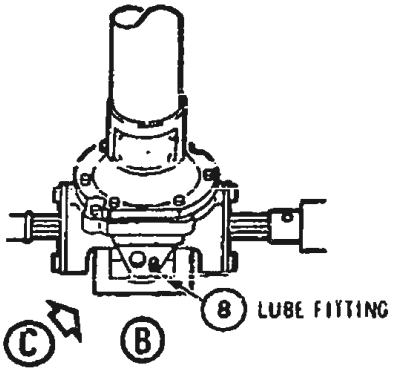
ZONES 510, 520, 610, 620



SLAT ACTUATOR
(7 PLACES EACH WING)



NO. 2 POSITION ONLY - AFT END
(LOOKING UP, LEFT WING ONLY)



ACCESS		
PANEL	ACCESS TO	ACCESS HEIGHT (APPROX)
511-611B8 511-611E8 511-611H8 521-621C8 521-621J8 521-621N8 521-621S8	NO. 1 ACTUATOR NO. 2 ACTUATOR NO. 3 ACTUATOR NO. 4 ACTUATOR NO. 5 ACTUATOR NO. 6 ACTUATOR NO. 7 ACTUATOR	12 FEET 15 FEET

LUBRICANT	NOTE	APPLICATION
8	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
15		

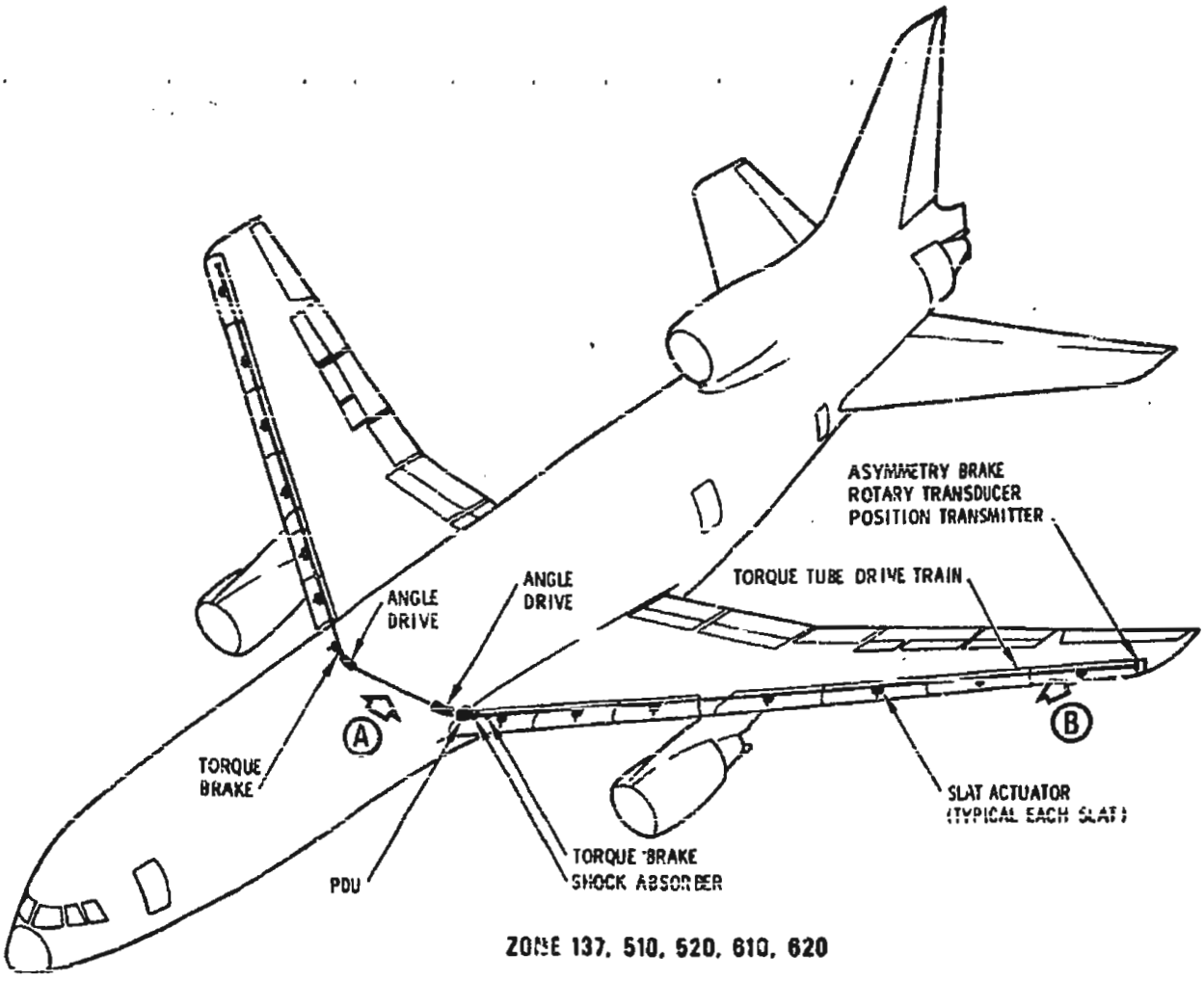
NOTE

1. NUMBER TWO WING SLAT ACTUATOR (LEFT WING ONLY). USE A HAND GREASE GUN WITH A FLEX HOSE, LOCKHEED PART NO. L290C4-10 AND LOCKHEED PART NO. L290C4-11 NEEDLE NOZZLE TO SATISFY LUBRICATION REQUIREMENTS. (REF. 12-20-00, FIG. 302)
2. AFTER HIGH PRESSURE WASHING, WIPE THE BALL SCREW THREADS WITH A CLEAN RAG SATURATED WITH MIL-L-7870 OIL.
3. APPLY 3 TO 4 SQUIRTS ON EACH SIDE. SEAL LUBE PORT WITH ALUMINUM TAPE, TWA STK NBR 47-2787 OR EQUIVALENT.

M1-0003-12-653

CR
CR

Wing Leading Edge Slat Actuators Lubrication
Figure 303



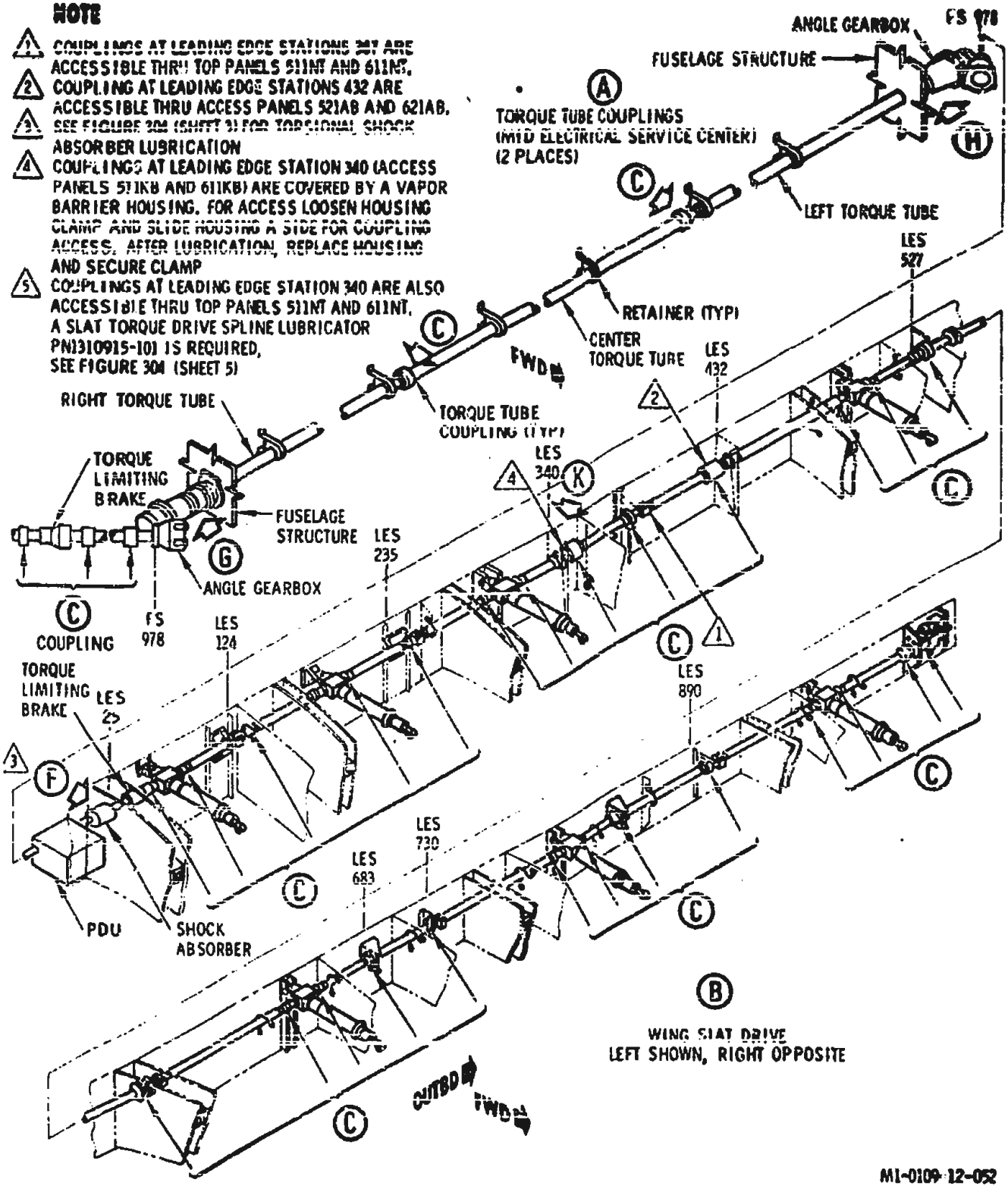
ZONE 137, 510, 520, 610, 620

M1-0101-12-075

R R Wing Slat Drive Coupling Lubrication
Figure 304 (Sheet 1)

EFFECTIVITY: ALL

001B

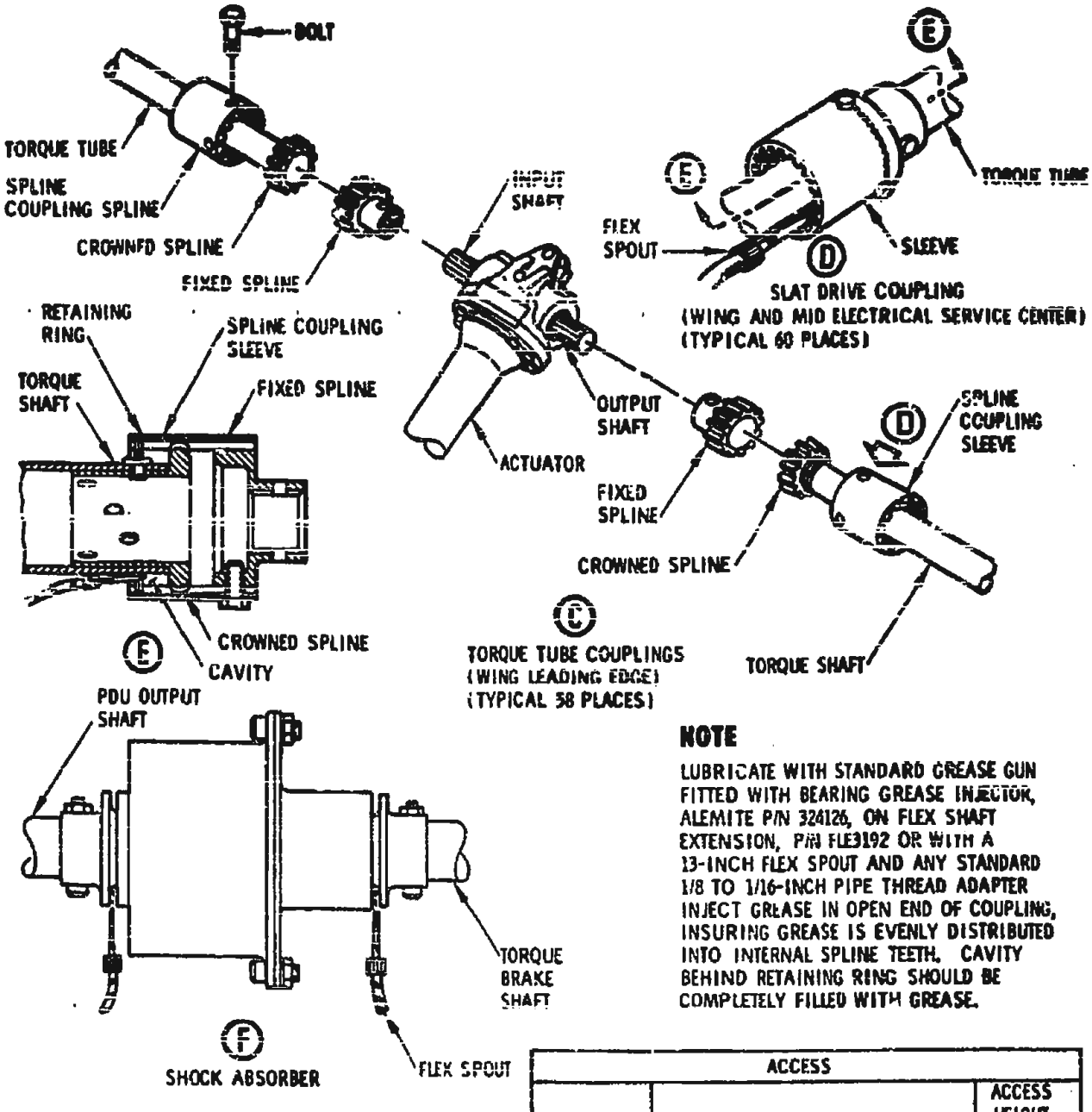

NOTE
1 COUPLINGS AT LEADING EDGE STATIONS 287 ARE ACCESSIBLE THRU TOP PANELS 511NT AND 611NT.
2 COUPLING AT LEADING EDGE STATIONS 432 ARE ACCESSIBLE THRU ACCESS PANELS 521AB AND 621AB.
3 SEE FIGURE 304 (SHEET 3) FOR TORSIONAL SHOCK ABSORBER LUBRICATION
4 COUPLINGS AT LEADING EDGE STATION 340 (ACCESS PANELS 511KB AND 611KB) ARE COVERED BY A VAPOR BARRIER HOUSING. FOR ACCESS LOOSEN HOUSING CLAMP AND SLIDE HOUSING A SIDE FOR COUPLING ACCESS. AFTER LUBRICATION, REPLACE HOUSING AND SECURE CLAMP
5 COUPLINGS AT LEADING EDGE STATION 340 ARE ALSO ACCESSIBLE THRU TOP PANELS 511NT AND 611NT. A SLAT TORQUE DRIVE SPLINE LUBRICATOR PN1310915-101 IS REQUIRED, SEE FIGURE 304 (SHEET 5)
ANGLE GEARBOX
FS 978
FUSELAGE STRUCTURE
A
TORQUE TUBE COUPLINGS (MID ELECTRICAL SERVICE CENTER) (2 PLACES)
H
C
LEFT TORQUE TUBE
LES 527
RETAINER (TYP)
CENTER TORQUE TUBE
LES 432
FWD
TORQUE TUBE COUPLING (TYP)
RIGHT TORQUE TUBE
TORQUE LIMITING BRAKE
FUSELAGE STRUCTURE
LES 235
LES 340
K
G
ANGLE GEARBOX
C
COUPLING
FS 978
LES 124
LES 890
TORQUE LIMITING BRAKE
LES 25
F
PDU
SHOCK ABSORBER
LES 730
LES 683
B
WING SLAT DRIVE
LEFT SHOWN, RIGHT OPPOSITE
OUTBD
FWD

M1-0109-12-052

R R Wing Slat Drive Coupling Lubrication
Figure 304 (Sheet 2)

EFFECTIVITY: ALL

001B



NOTE

LUBRICATE WITH STANDARD GREASE GUN FITTED WITH BEARING GREASE INJECTOR, ALEMITE P/N 324126, ON FLEX SHAFT EXTENSION, P/N FLE3192 OR WITH A 13-INCH FLEX SPOUT AND ANY STANDARD 1/8 TO 1/16-INCH PIPE THREAD ADAPTER INJECT GREASE IN OPEN END OF COUPLING, INSURING GREASE IS EVENLY DISTRIBUTED INTO INTERNAL SPLINE TEETH. CAVITY BEHIND RETAINING RING SHOULD BE COMPLETELY FILLED WITH GREASE.

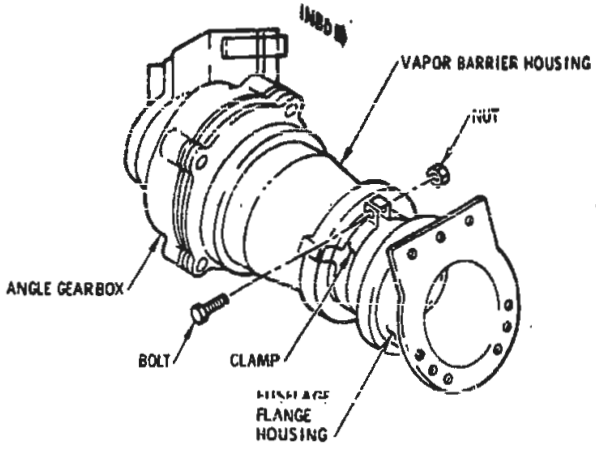
LUBRICANT	NOTE	APPLICATION
(8)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

ACCESS		
PANEL	ACCESS TO	ACCESS HEIGHT (APPROX)
137AZ 511-611AB THRU 511-611LB 511NT-611NT 521-621AB THRU 521-621UB	MID ELECTRICAL SERVICE CENTER WING LEADING EDGE	5 FT 10 FT 15 FT

M1-0103-12-053

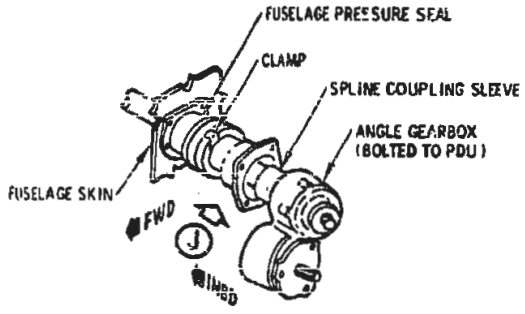
R
R

Wing Slat Drive Coupling Lubrication
Figure 304 (Sheet 3)



G

ANGLE GEARBOX
(RIGHT SIDE)
(LOOKING OUTBOARD)



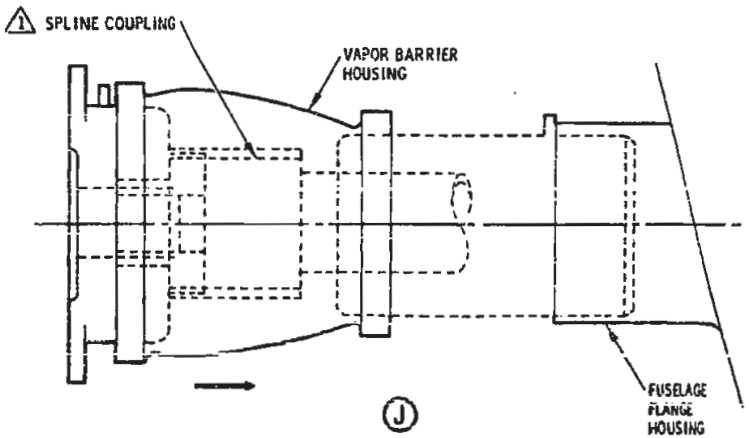
H

ANGLE GEARBOX
(LEFT SIDE)
(LOOKING INBOARD)

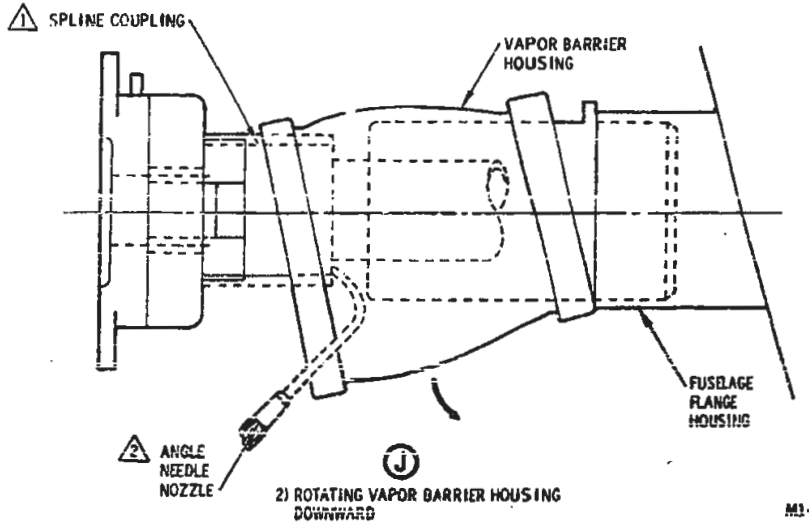
ACCESS		
PANEL	ACCESS TO	ACCESS HEIGHT (APPROX)
511-611AB	WING LEADING EDGE	10 FT

NOTE:

1. TO LUBRICATE SPLINE COUPLINGS INSIDE VAPOR BARRIER HOUSING:
   1) REMOVE CLAMP
   2) MOVE HOUSING INBOARD
   3) DISPLACE HOUSING DOWNWARD
   4) INSERT ANGLE NEEDLE NOZZLE
   5) FILL CAVITY
   6) REPOSITION HOUSING
   7) REPLACE CLAMP
2. LUBRICATE WITH STANDARD GREASE GUN FITTED WITH BEARING GREASE INJECTOR, ALEMITE P/N EL290C4-14, ON FLEX SHAFT EXTENSION, P/N L290CA-10 OR WITH A 13-INCH FLEX SPOUT AND ANY STANDARD 1/8 TO 1/16-INCH PIPE THREAD ADAPTER INJECT GREASE IN OPEN END OF COUPLING. INSURING GREASE IS EVENLY DISTRIBUTED INTO INTERNAL SPLINE TEETH. CAVITY BEHIND RETAINING RING SHOULD BE COMPLETELY FILLED WITH GREASE. SEE FIGURE 304, SHEET 3, DETAIL E.



1) MOVING VAPOR BARRIER HOUSING BACK AFTER REMOVING CLAMP



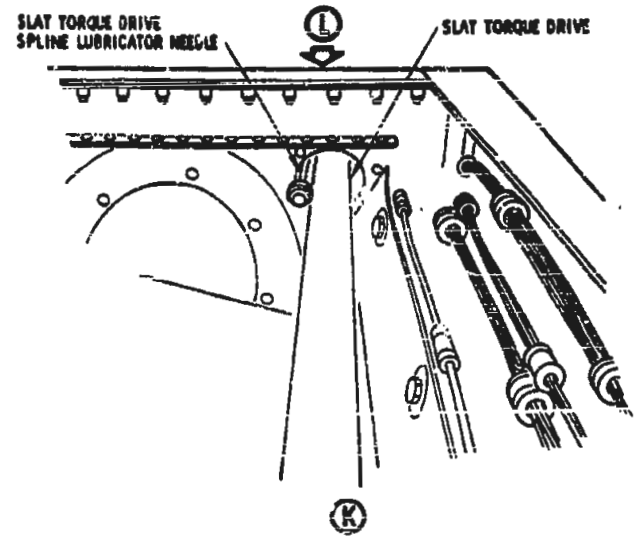
2) ROTATING VAPOR BARRIER HOUSING DOWNWARD

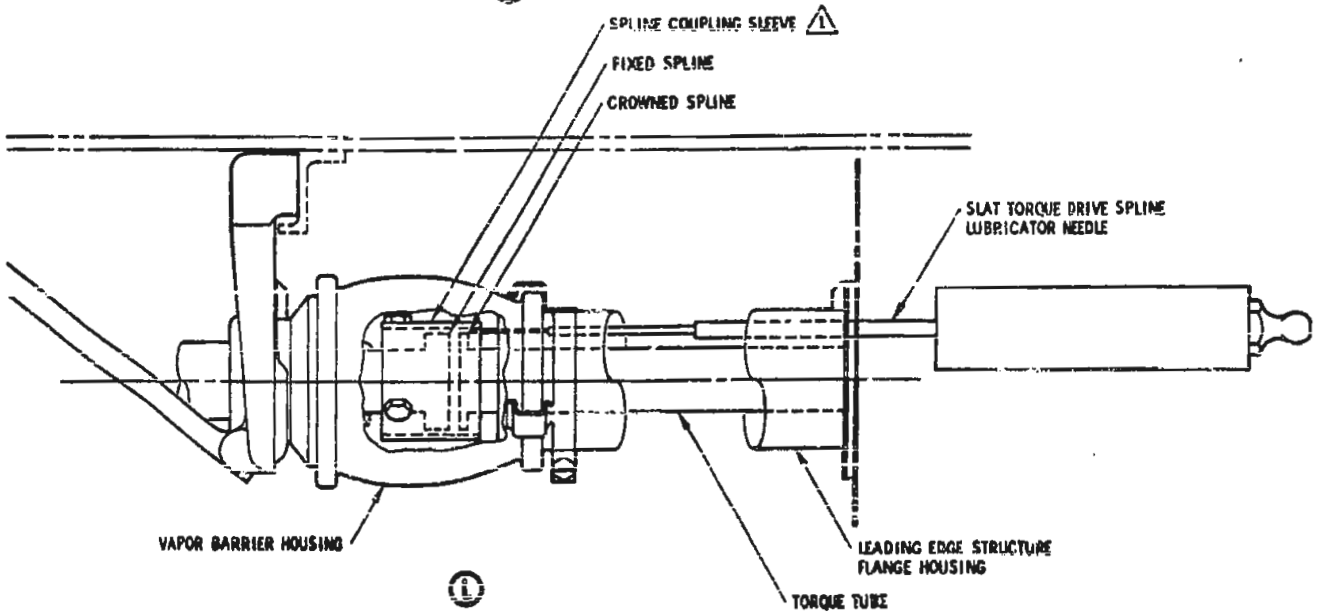
M1-0009-12-4B

R Wing Slat Drive Coupling Lubrication
R Figure 304 (Sheet 4)

EFFECTIVITY: ALL

001B





NOTE

1. TO LUBRICATE SPLINE COUPLINGS INSIDE VAPOR BARRIER HOUSING:
   - A REMOVE ACCESS PANELS 511 NT AND 611 NT
   - B INSERT LUBRICATOR NEEDLE NOZZLE BETWEEN LEADING EDGE STRUCTURE FLANGE HOUSING AND TORQUE TUBE AND BETWEEN CROWNED SPLINE AND SPLINE COUPLING SLEEVE
   - C INJECT GREASE INTO CAVITY BETWEEN FIXED SPLINE AND CROWNED SPLINE
2. LUBRICATE WITH STANDARD GREASE GUN FITTED WITH SLAT TORQUE DRIVE SPLINE LUBRICATOR NEEDLE P/N 1310915-101 ON LINCOLN 18 INCH WHIP HOSE P/N 5818, OR EQUIVALENT

MI-0000-12-707

R Wing Slat Drive Coup 'ng Lubrication
R Figure 304 (Sheet 5)

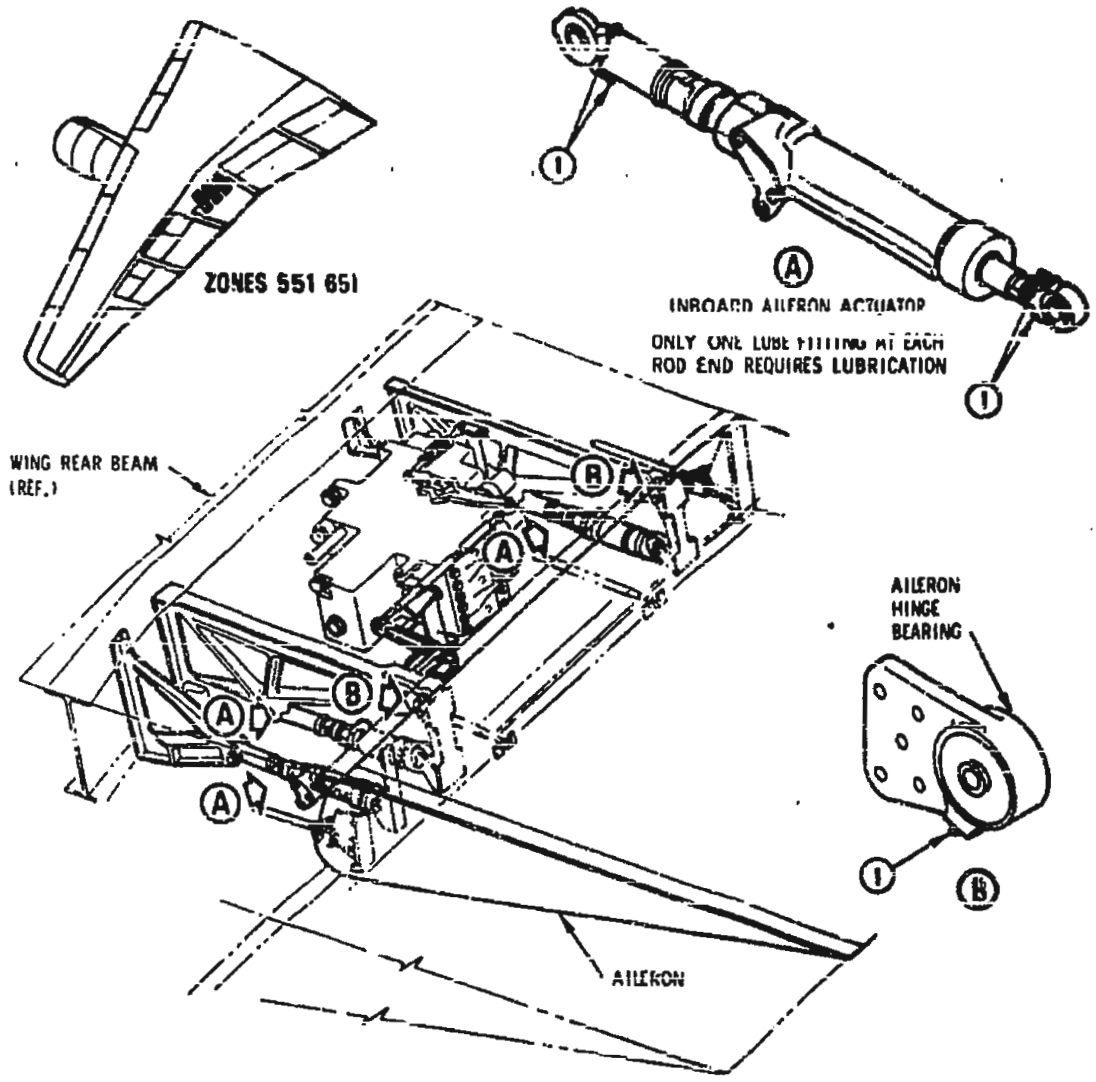
EFFECTIVITY: ALL

001B

AILERON - SERVICING

R 1. Servicing

R Components of the aileron requiring lubrication are contained in
R this section.


ZONES 551 651
INBOARD AILERON ACTUATOR
ONLY ONE LUBE FITTING AT EACH ROD END REQUIRES LUBRICATION
WING REAR BEAM (REF.)
AILERON HINGE BEARING
AILERON

LUBRICANT	NOTE	APPLICATION
①	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

INBOARD AILERON ACTUATOR ACCESS PANELS	
PANEL	ACCESS HEIGHT (APPROX)
551AB (651AB)	17 FEET
551BB (651BB)	17 FEET
551CB (651CB)	17 FEET

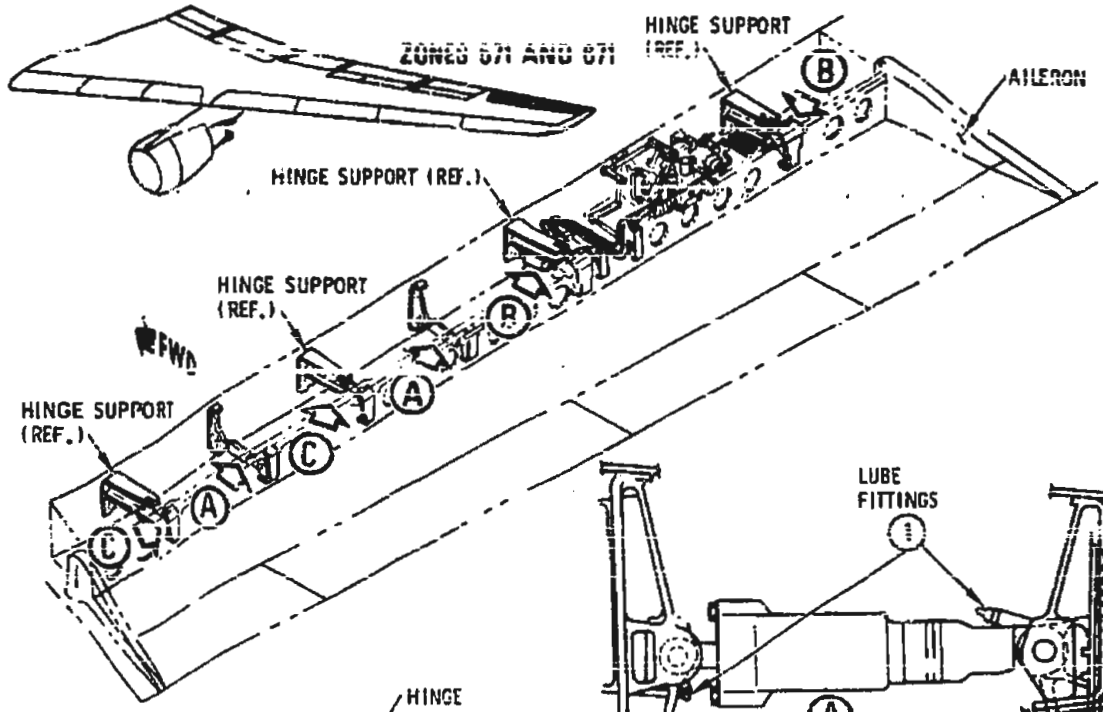
M1-0102-12-006

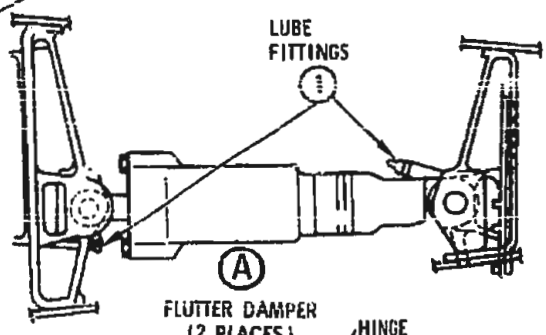
R
R

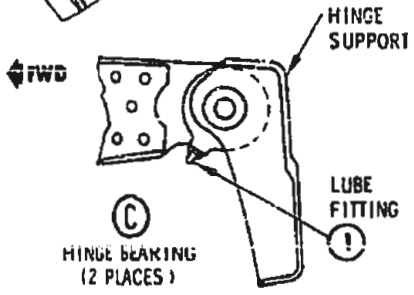
Inboard Aileron Lubrication
Figure 301

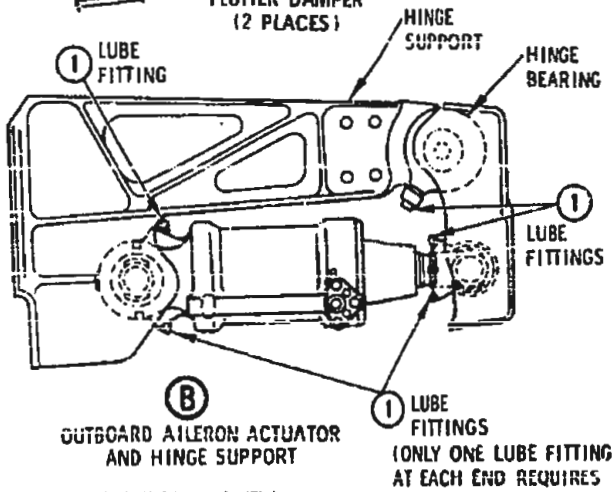
EFFECTIVITY: ALL

0018









LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

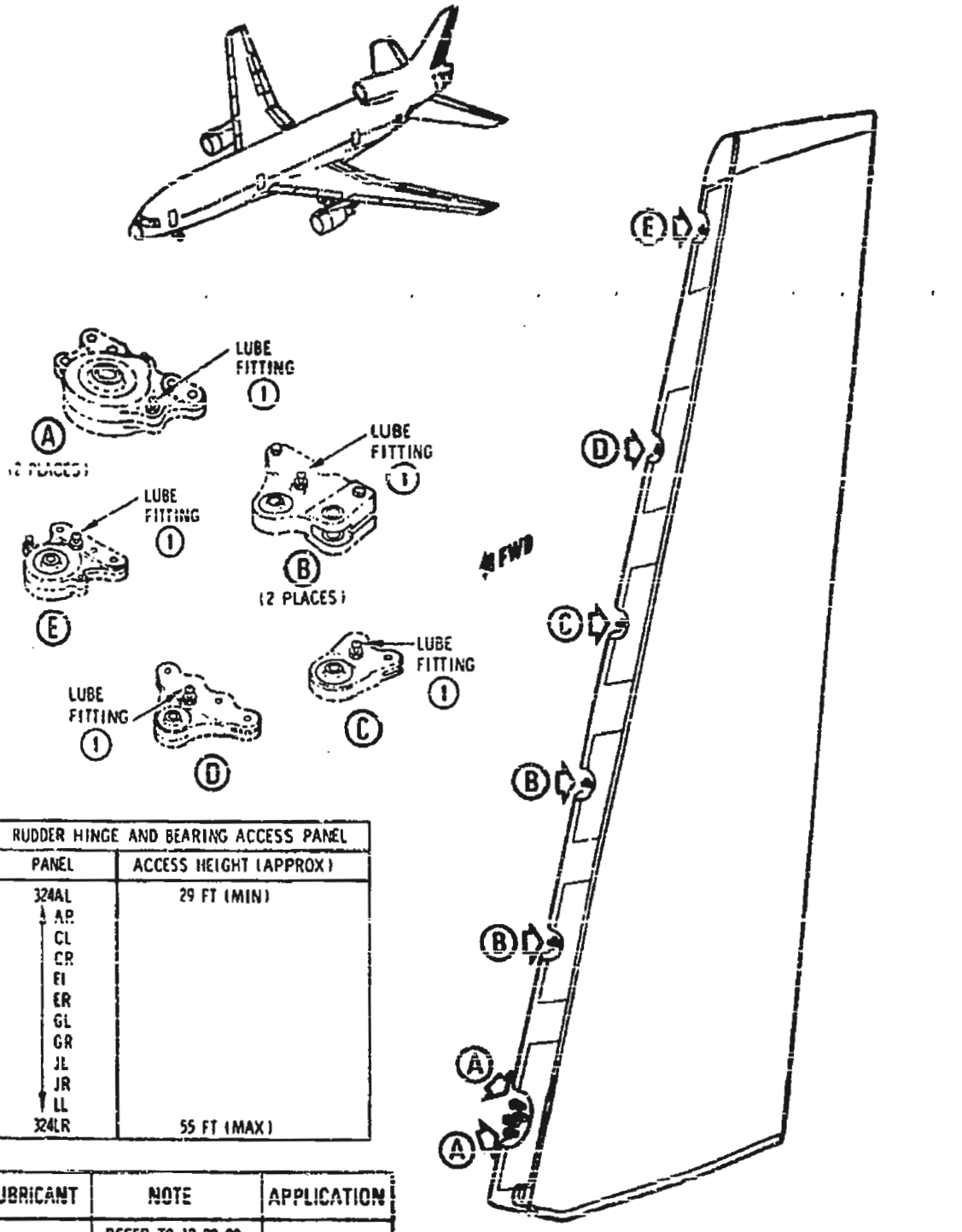
OUTBOARD AILERON ACCESS PANEL	
PANEL	ACCESS HEIGHT (APPROX)
571AB (671AB)	18 FT
571AB-2 (671AB-2)	
571CB (671CB)	
571DB (671DB)	
571EB (671EB)	18 FT

M1-0102-12-007

R
R

Outboard Aileron Lubrication
Figure 302

R EFFECTIVITY: ALL
R
001B



RUDDER HINGE AND BEARING ACCESS PANEL	
PANEL	ACCESS HEIGHT (APPROX)
324AL	29 FT (MIN)
AR	
CL	
CR	
EI	
ER	
GL	
GR	
JL	
JR	
LL	
324LR	55 FT (MAX)

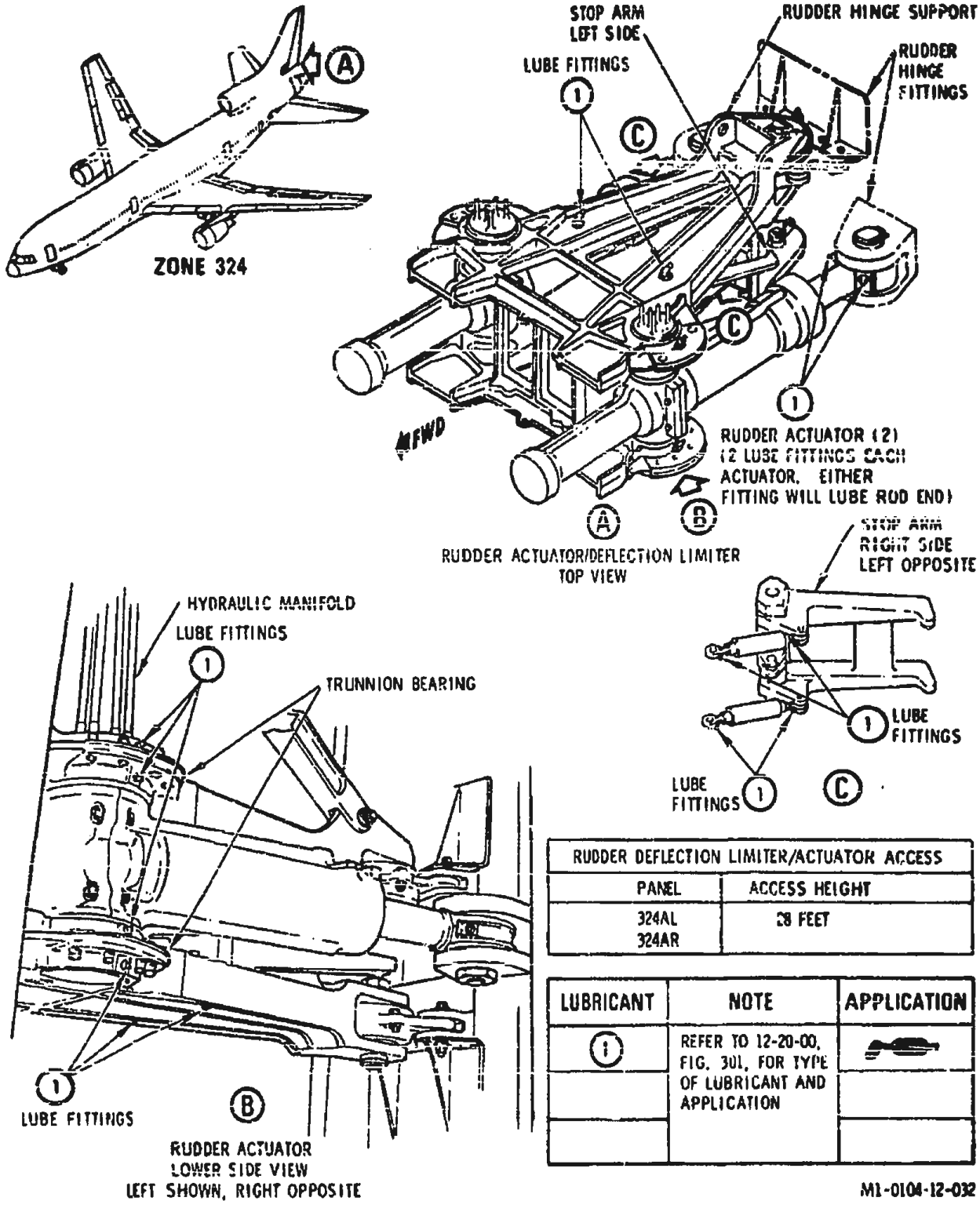
LUBRICANT	NOTE	APPLICATION
	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
1		

HK 4841
M1-0101-12-013

R Rudder Hinges Lubrication
R Figure 301

EFFECTIVITY: ALL

0508

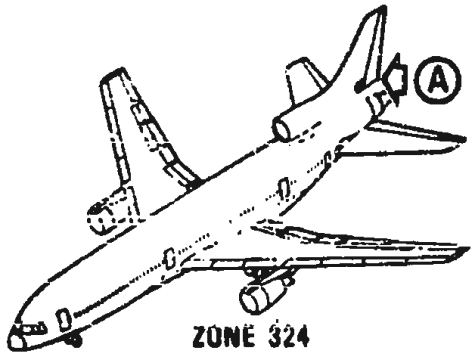


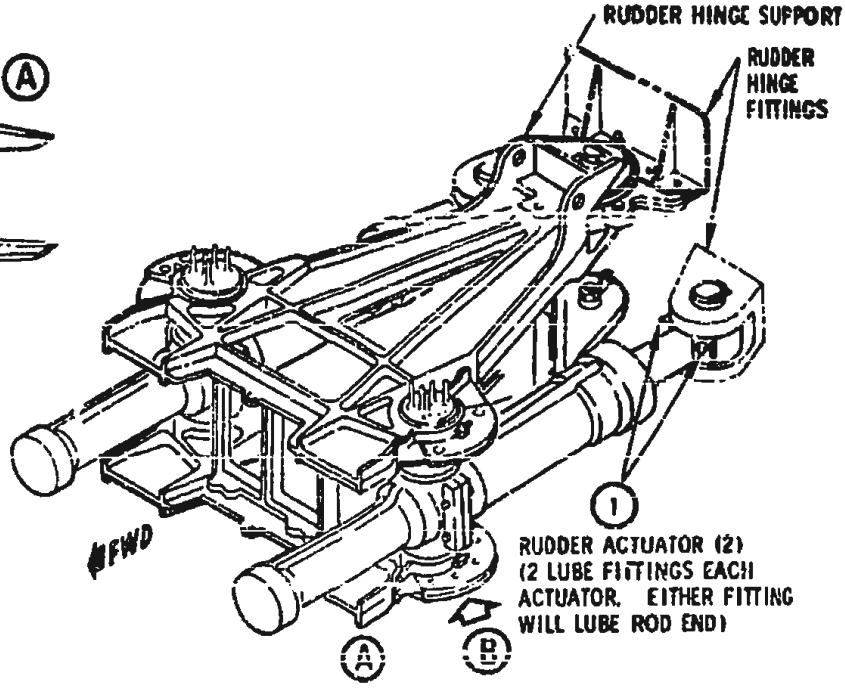
RUDDER DEFLECTION LIMITER/ACTUATOR ACCESS	
PANEL	ACCESS HEIGHT
324AL 324AR	28 FEET

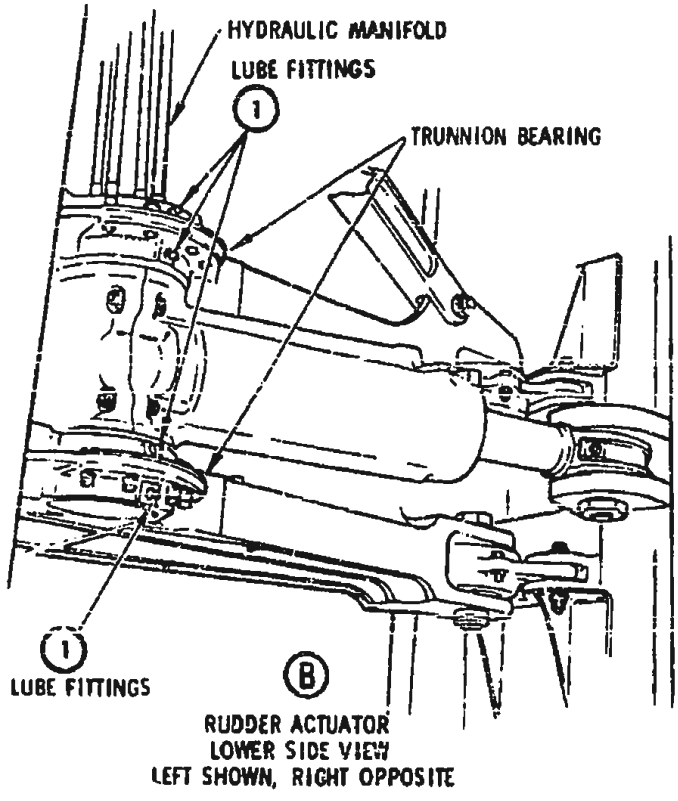
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0104-12-032

Rudder Deflection Limiter and Rudder Actuator Lubrication
Figure 302





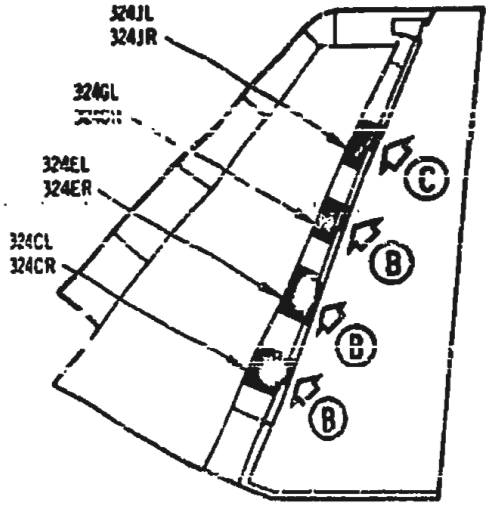


RUDDER ACTUATOR ACCESS	
PANEL	ACCESS HEIGHT
324AL 324AR	28 FEET

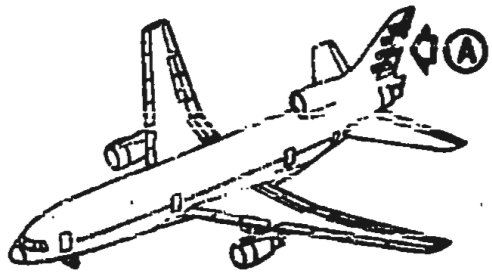
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 310, FOR TYPE OF LUBRICANT AND APPLICATION	

MI-0000-12-084

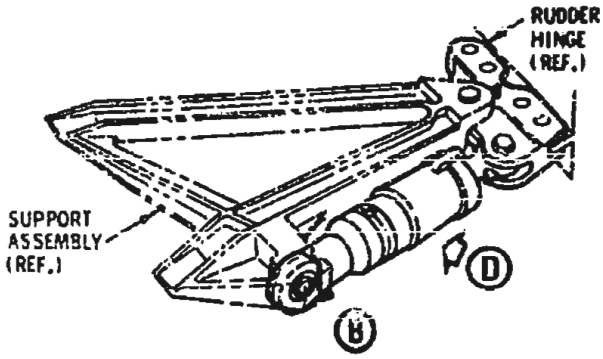
Rudder Actuator Lubrication
Figure 302

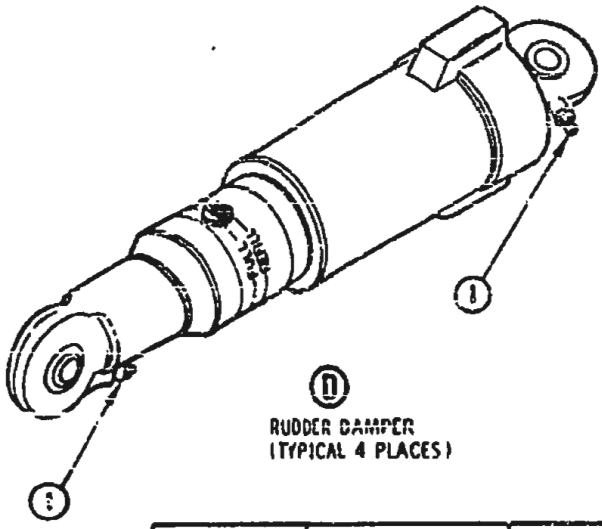


(A)
ACCESS PANELS TO
FOUR RUDDER DAMPERS

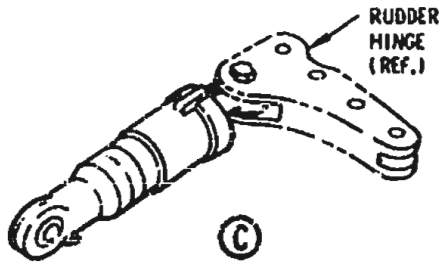


ZONES 324 325





(D)
RUDDER DAMPER
(TYPICAL 4 PLACES)

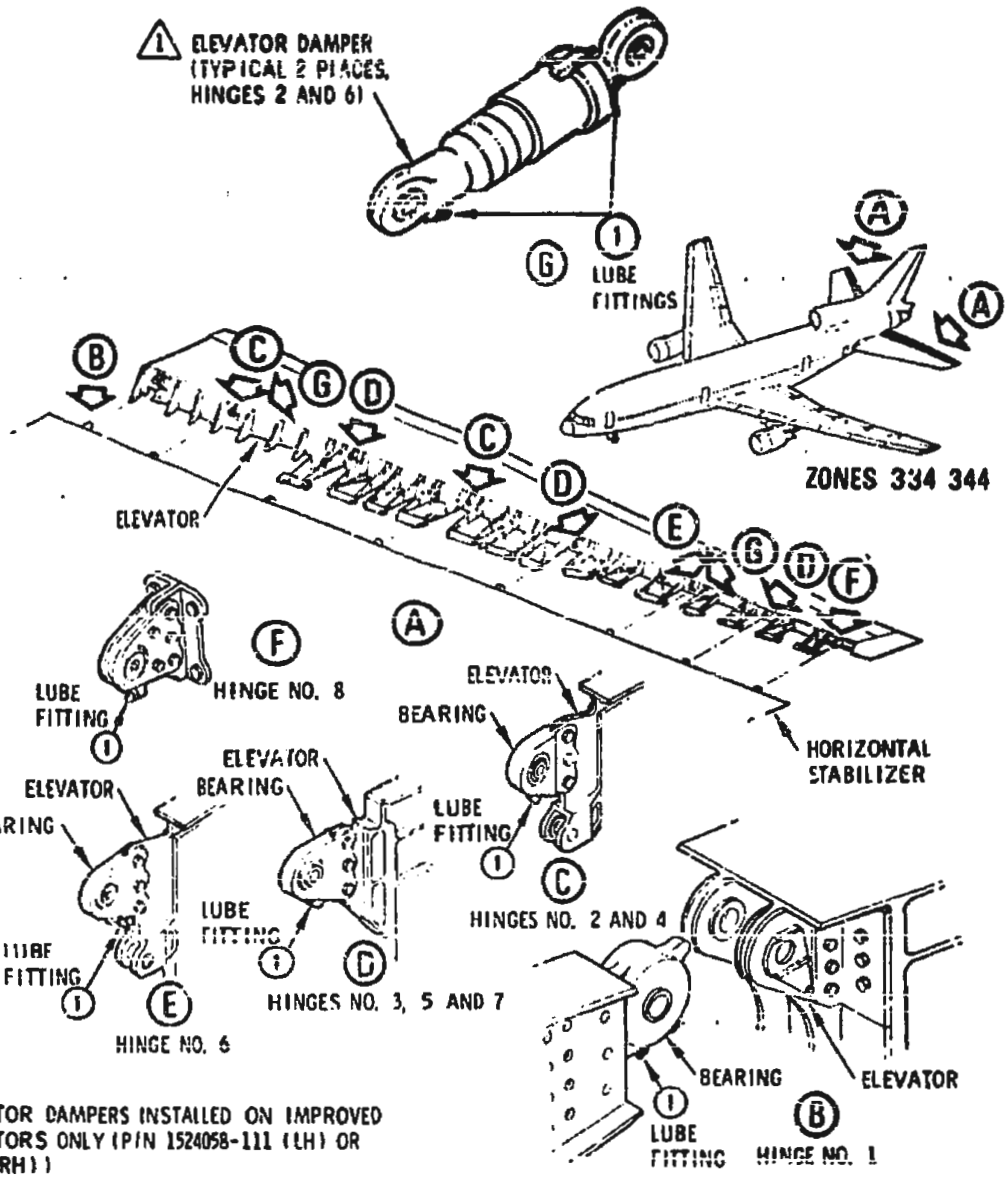


LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

DAMPERS ACCESS	
PANEL	ACCESS HEIGHT (APPROX)
324CL	30 FEET MINIMUM
CR	
EL	
ER	
GL	
GR	
JL	
324JR	45 FEET MAXIMUM

HH 5144
M1-0101-12-016

Rudder Damper Lubrication
Figure 303



NOTE

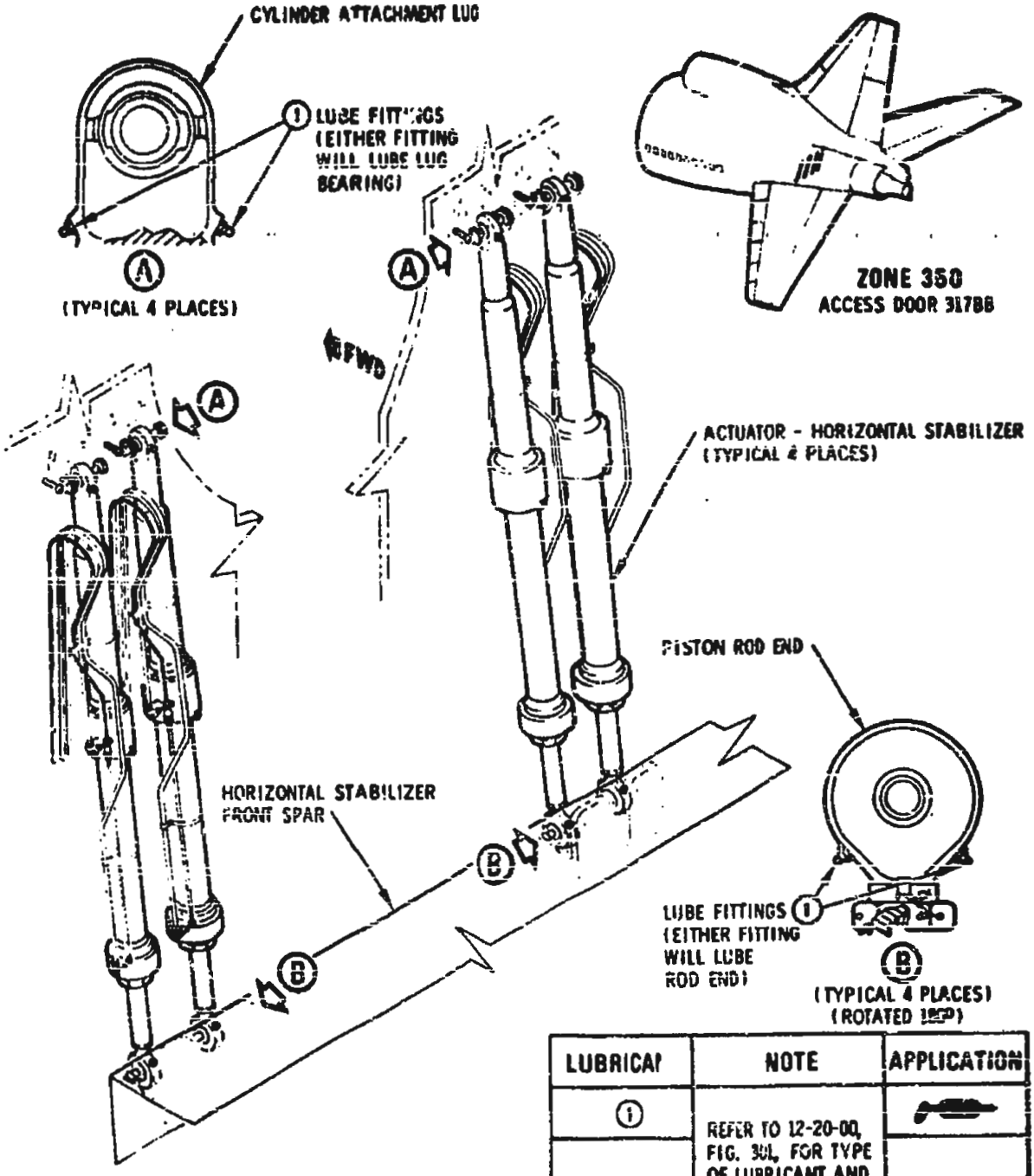
1 ELEVATOR DAMPERS INSTALLED ON IMPROVED ELEVATORS ONLY (P/N 1524058-111 (LH) OR -112 (RH))

ELEVATOR HINGES ACCESS				
PANEL				ACCESS HEIGHT (APPROX)
334CB	344CB	334SB	344SB	31 FEET MIN
~~334CB~~	~~344CB~~	~~334TB~~	~~344TB~~	
334FB	344FB	334UB	~~344UB~~	
334HB	~~344HB~~	334VB	344VB	
334LB	344LB	334WB	344WB	
334MB	344MB	335AB	345AB	
334PB	344PB	335BB	345BB	
334QB	344QB	335CB	345CB	55 FEET MAX

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0003-12-014

R Elevator Hinges and Elevator Damper Lubrication
R Figure 301



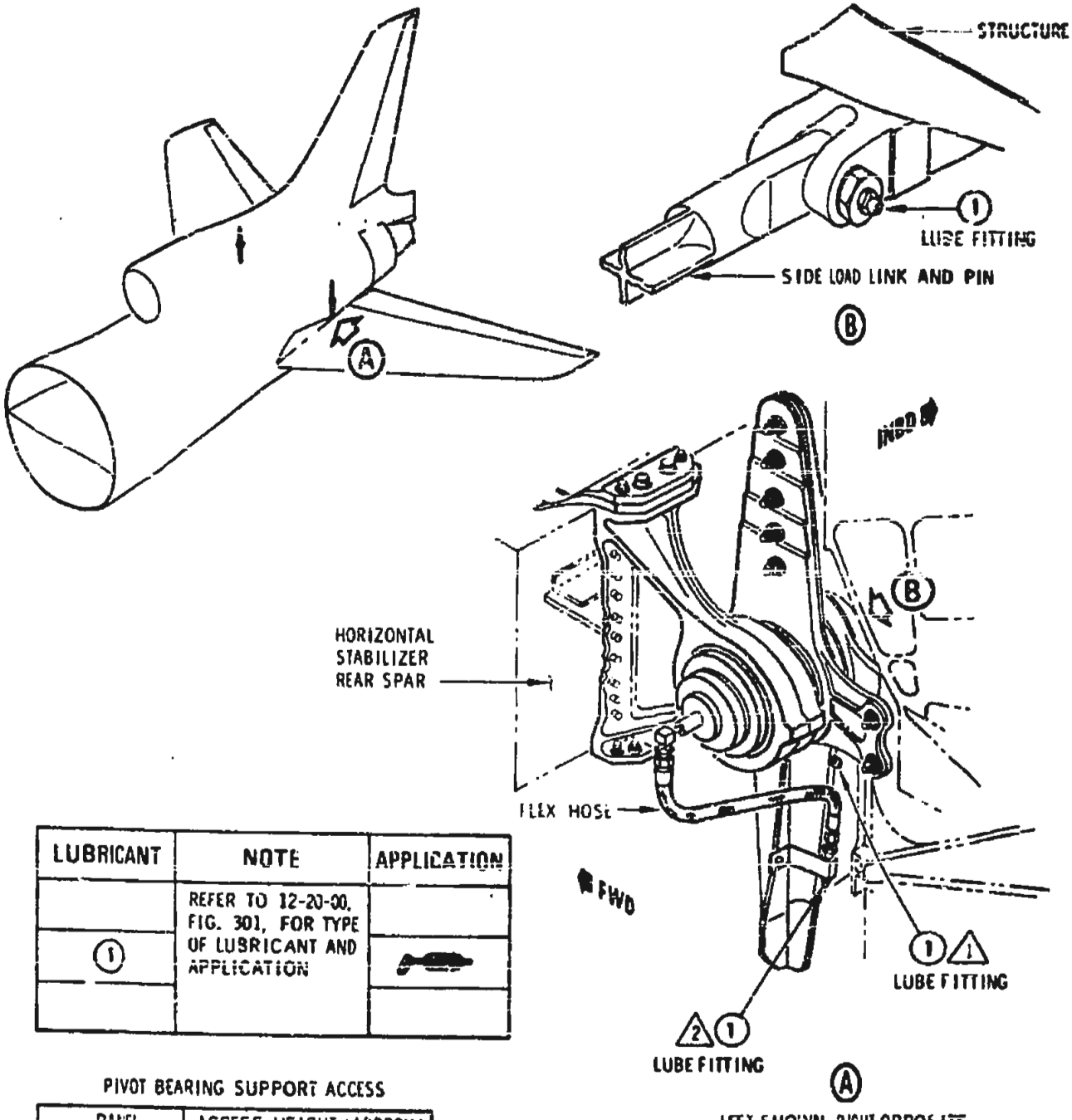
LUBRICAT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

MI-0103-12-009

R Horizontal Stabilizer - Hydraulic Actuator Lubrication
R Figure 302

EFFECTIVITY: ALL

001B



LUBRICANT	NOTE	APPLICATION
	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
1		

PIVOT BEARING SUPPORT ACCESS

PANEL	ACCESS HEIGHT (APPROX)
3186L-1, 3186R-1	18 FT 18 FT

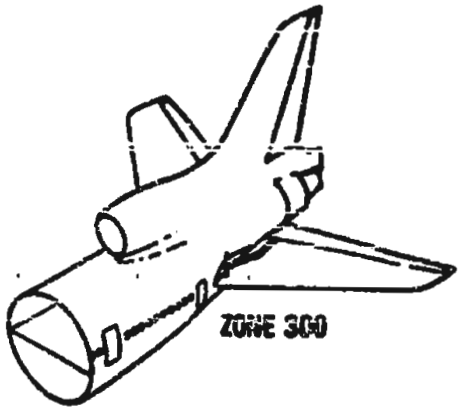
NOTE

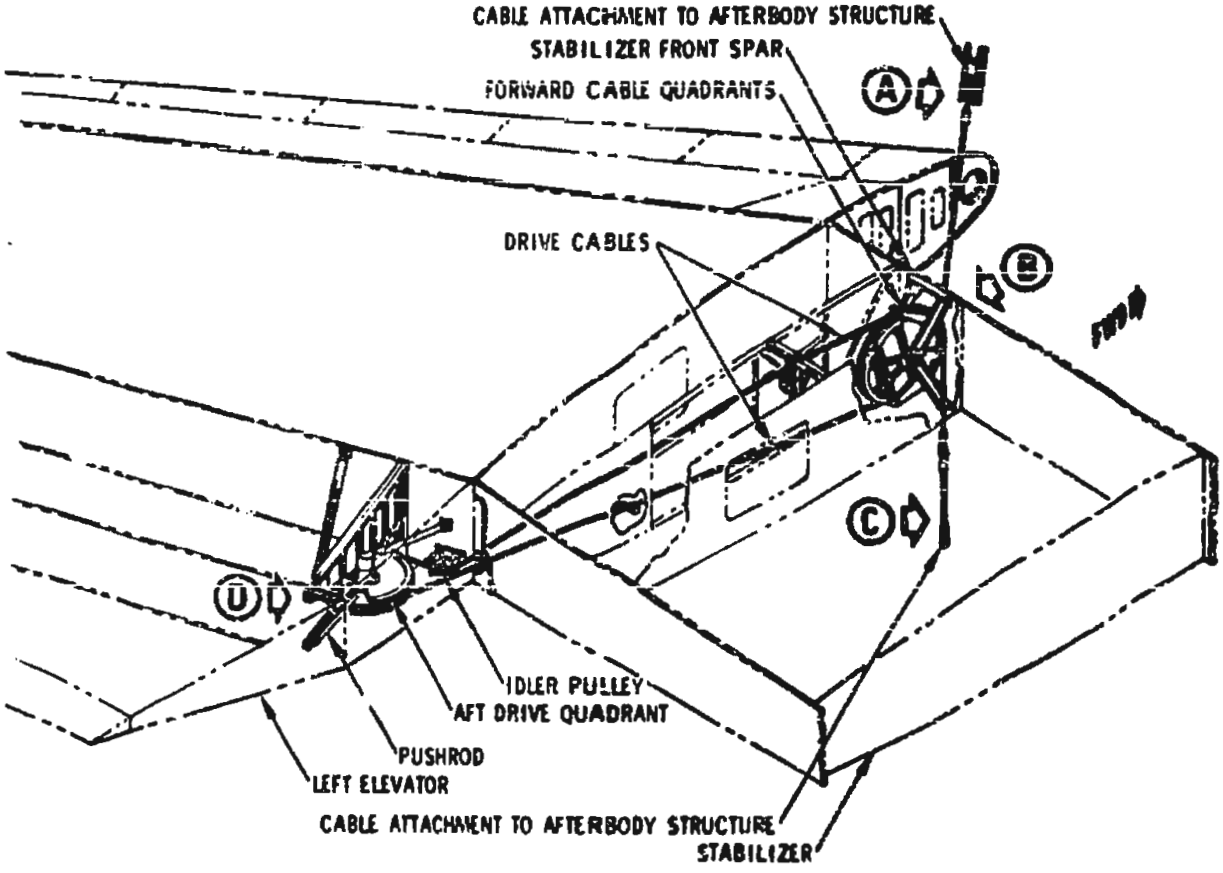
1 LUBE FITTING AT BEARING SUPPORT STRUCTURE LUBRICATES PIVOT PIN THROUGH PASSAGES IN BEARING AND BEARING HOUSING. LOOK FOR GREASE EMERGING BETWEEN BEARING SUPPORT STRUCTURE AND STABILIZER PIVOT FITTING

2 LUBE FITTING AT END OF HOSE ONLY LUBRICATES INNER BEARING SURFACE OF SIDE LOAD LINK. THIS FITTING WILL NOT LUBRICATE PIVOT BEARING

M1-0005-12-008

R Horizontal Stabilizer - Pivot Bearing Support Lubrication
R Figure 303





ACCESS	
PANEL	ACCESS HEIGHT (APPROXIMATE)
317BB	10 FT
334CB	19 FT
344CB	19 FT

LEFT SHOWN, RIGHT OPPOSITE

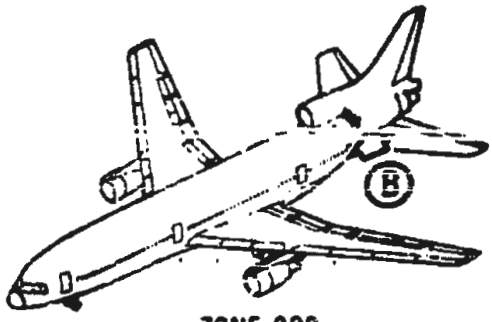
M1-0103-12-004

R
R

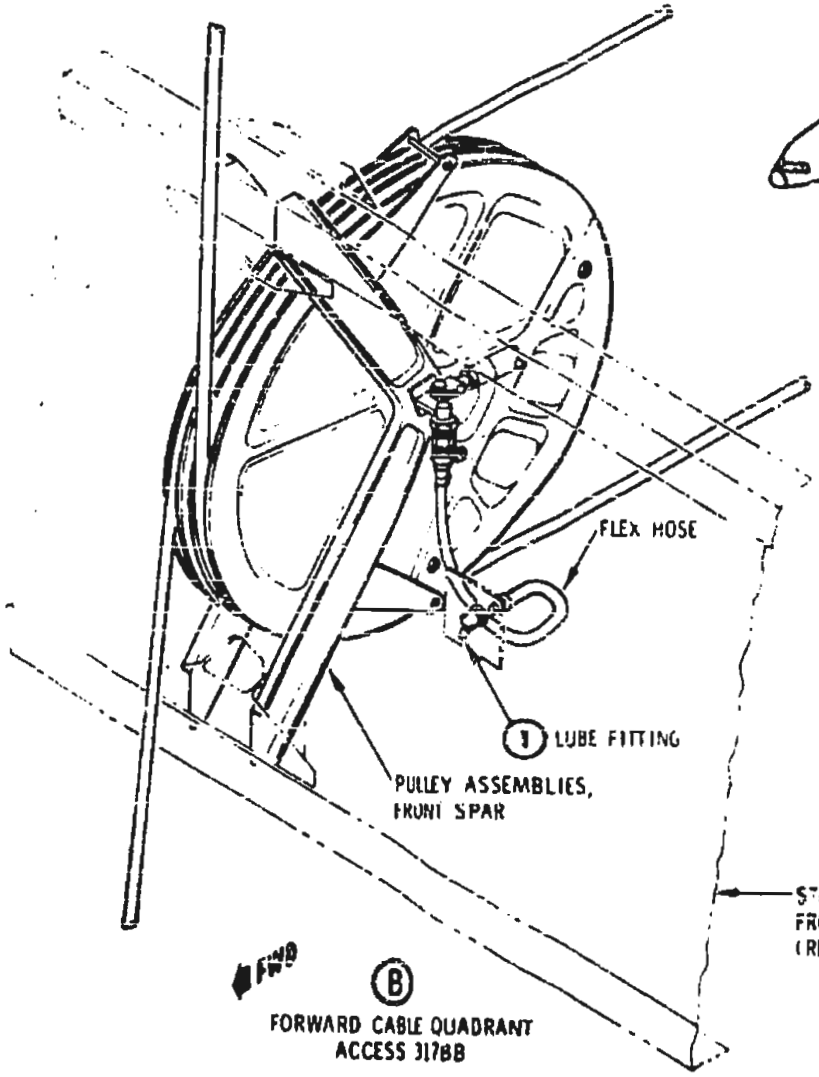
Elevator Drive System Lubrication
Figure 304 (Sheet 1)

EFFECTIVITY: ALL

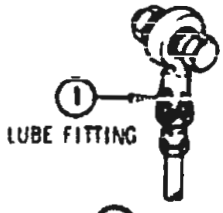
001B



ZONE 300



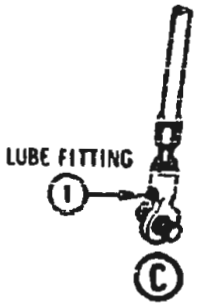
(B) FORWARD CABLE QUADRANT ACCESS 317BB



(A) ROD END - ACCESS 317BB

CAUTION

USE ONLY LOW PRESSURE LUBE GUN OR HAND GUN



(C) ROD END - ACCESS 317BB

LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

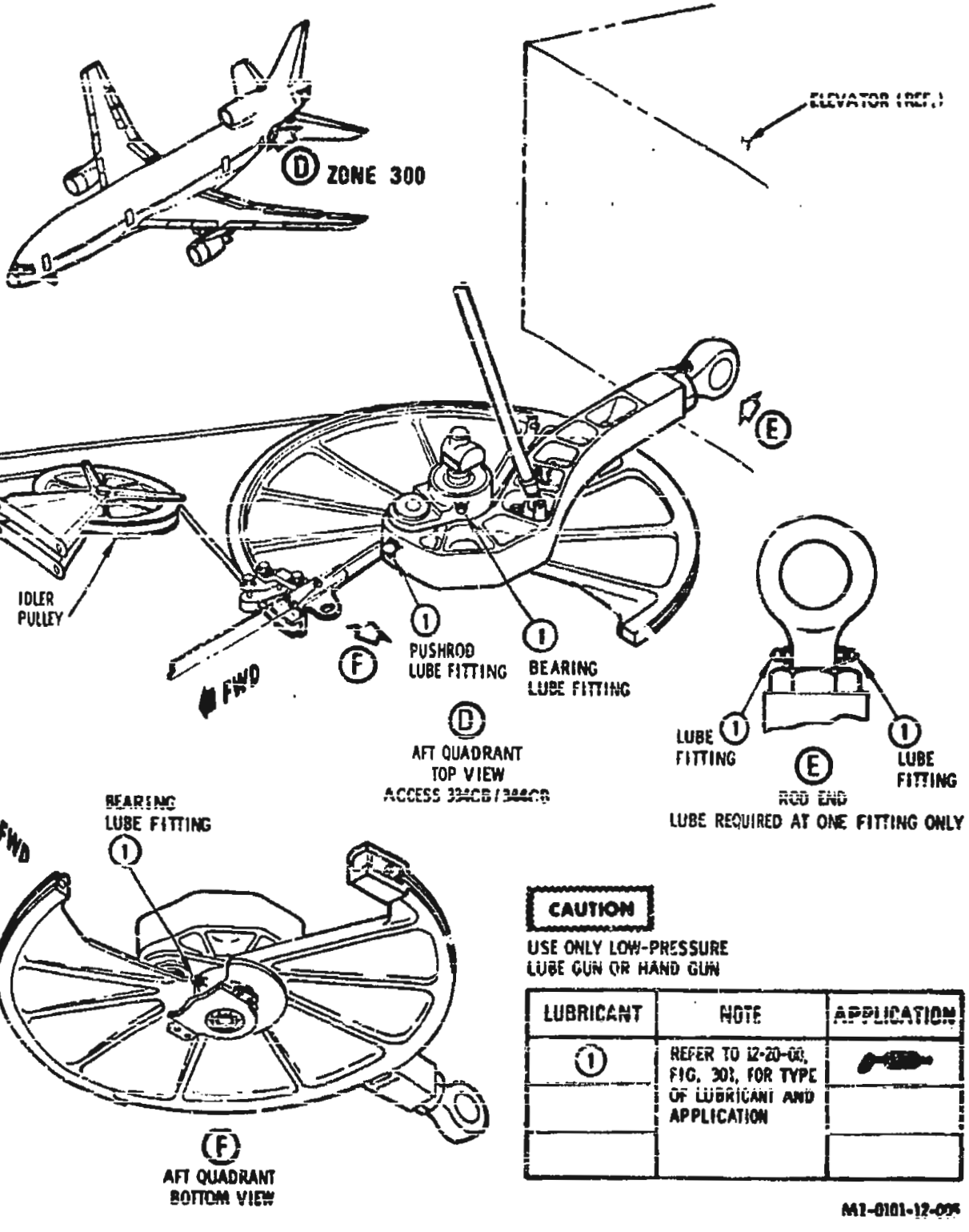
M1-0104-12-001

R
R

Elevator Drive System Lubrication
Figure 304 (Sheet 2)

EFFECTIVITY: ALL

001B



CAUTION

USE ONLY LOW-PRESSURE LUBE GUN OR HAND GUN

LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

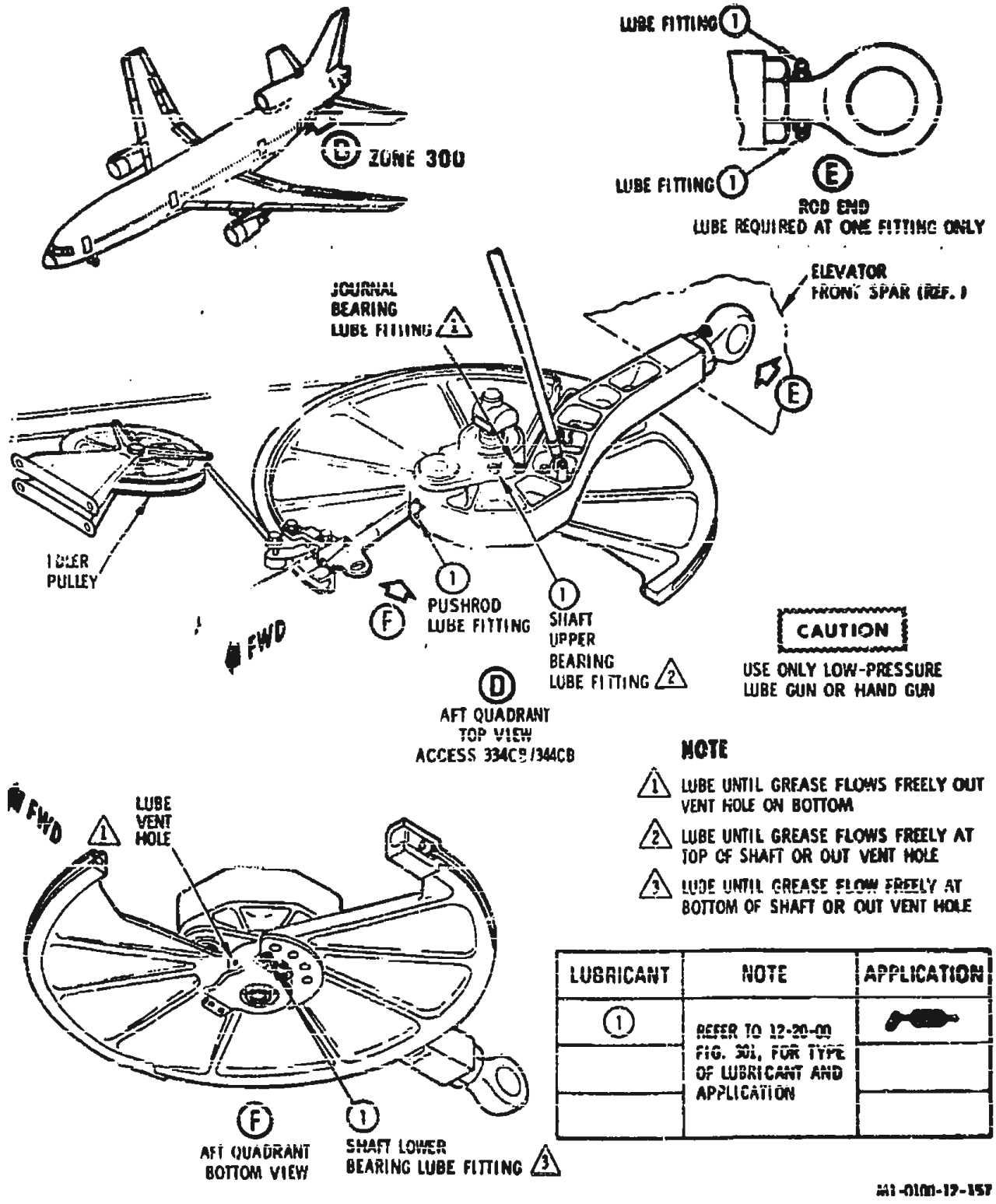
M1-0101-12-005

R
R

Elevator Drive System Lubrication
Figure 304 (Sheet 3)

EFFECTIVITY: 001-031 WITHOUT SB27-158

0018



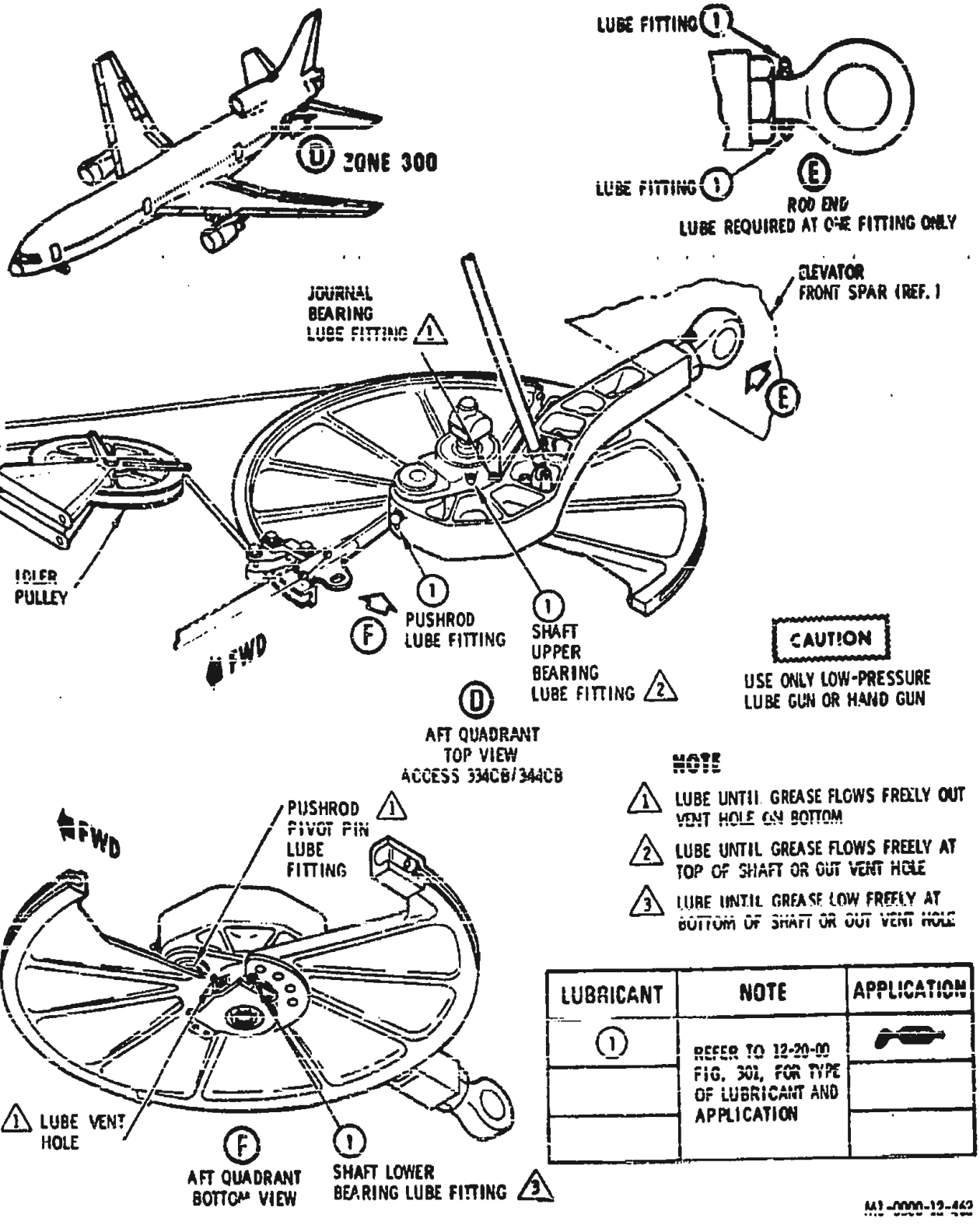
NOTE

1. LUBE UNTIL GREASE FLOWS FREELY OUT VENT HOLE ON BOTTOM
2. LUBE UNTIL GREASE FLOWS FREELY AT TOP OF SHAFT OR OUT VENT HOLE
3. LUBE UNTIL GREASE FLOW FREELY AT BOTTOM OF SHAFT OR OUT VENT HOLE

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00 FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0101-12-157

Elevator Drive System Lubrication
Figure 304 (Sheet 3)



NOTE

1. LUBE UNTIL GREASE FLOWS FREELY OUT VENT HOLE ON BOTTOM
2. LUBE UNTIL GREASE FLOWS FREELY AT TOP OF SHAFT OR OUT VENT HOLE
3. LUBE UNTIL GREASE LOW FREELY AT BOTTOM OF SHAFT OR OUT VENT HOLE

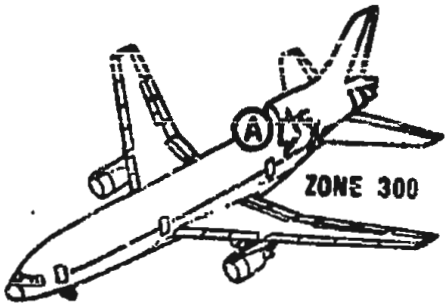
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00 FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

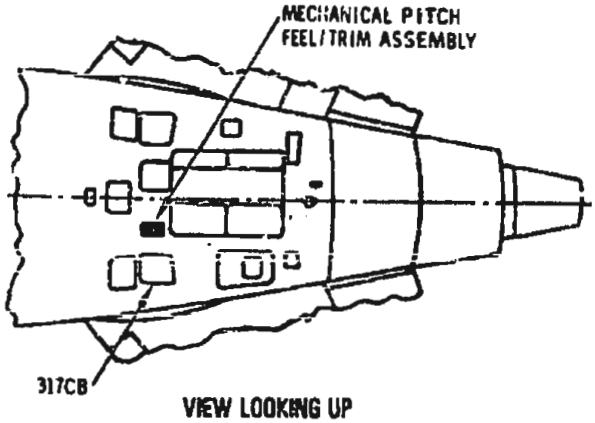
M1-0000-12-462

R Elevator Drive System Lubrication
R Figure 304 (Sheet 3)

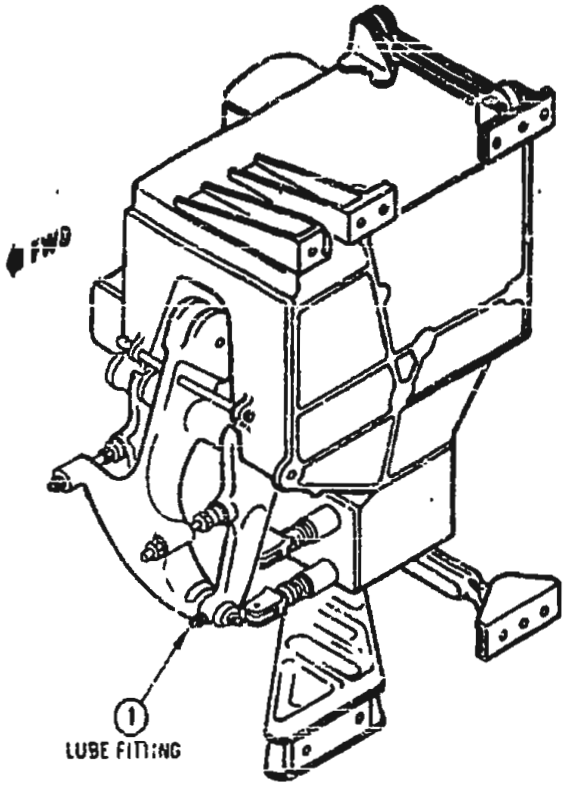
EFFECTIVITY: 001-032 WITH SB27-166 AND 033-999

001B





VIEW LOOKING UP
(ACCESS DOOR LOCATION)



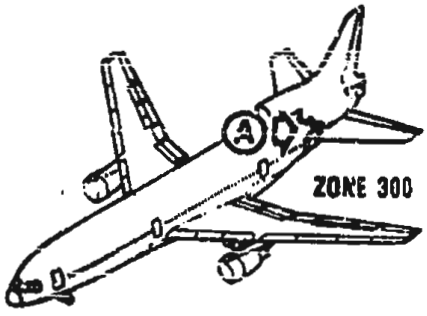
(A)
MECHANICAL PITCH FEEL/TRIM ASSEMBLY

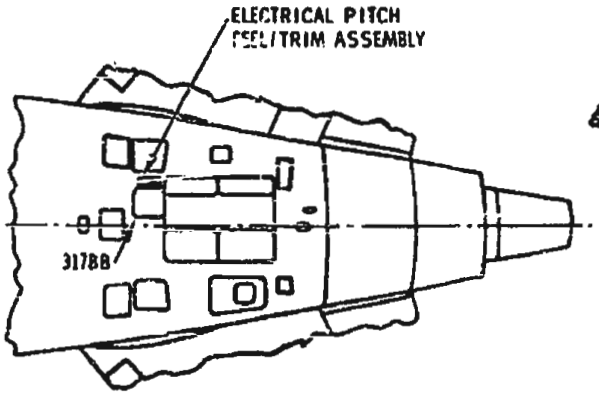
ACCESS	
PANEL	ACCESS HEIGHT (APPROXIMATE)
317CB	10 FT

LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

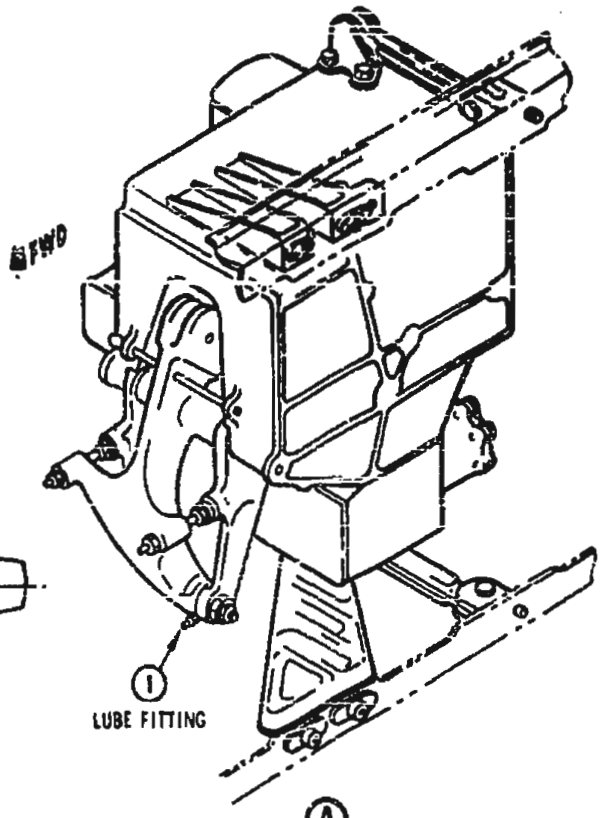
HH 6084
M1-0101-12-037

Horizontal Stabilizer - Mechanical Pitch Feel/Trim Assembly
Lubrication
Figure 305





VIEW LOOKING UP
(ACCESS DOOR LOCATION)



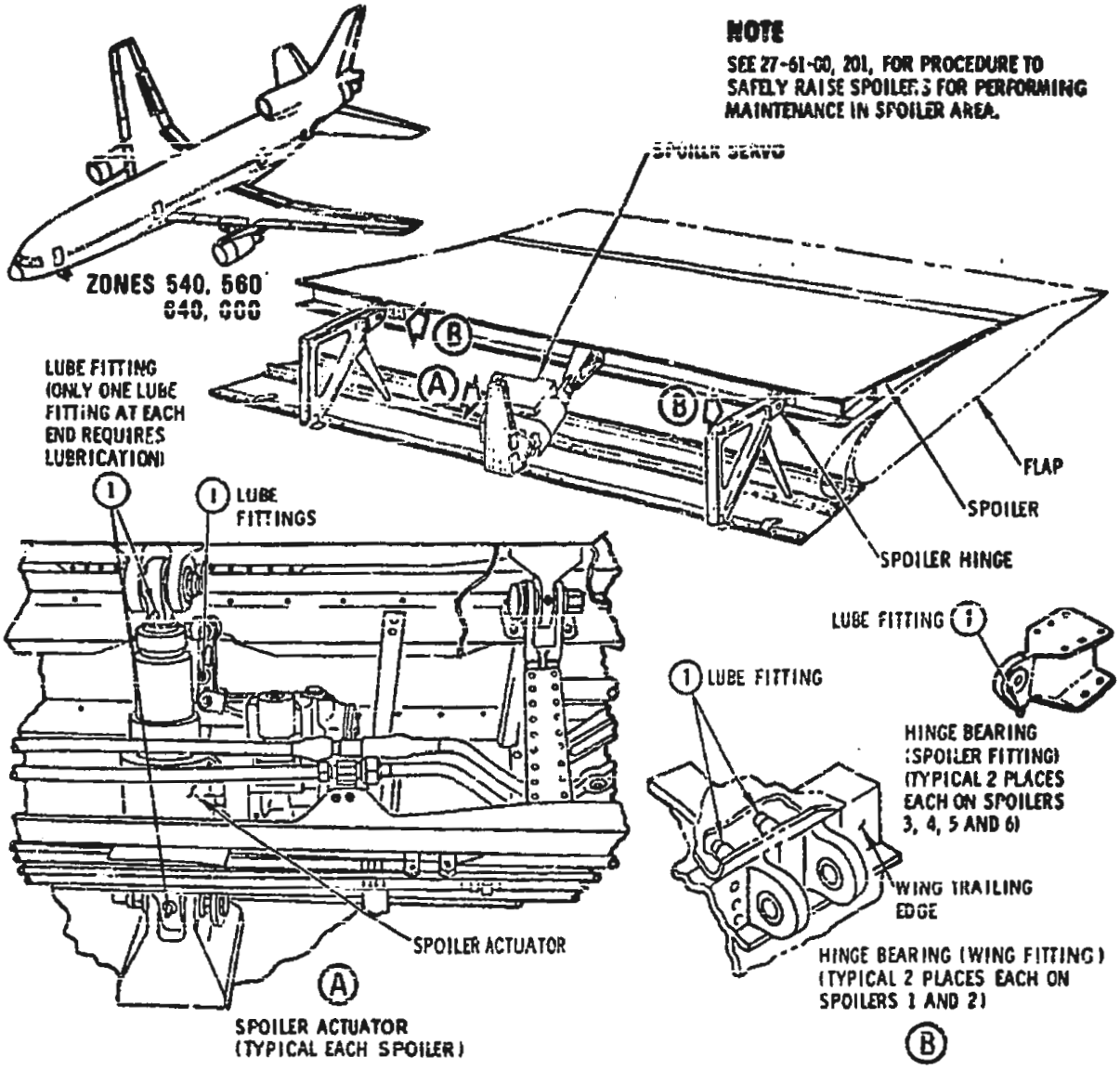
A
ELECTRICAL PITCH FEEL/TRIM ASSEMBLY

ACCESS	
PANEL	ACCESS HEIGHT (APPROXIMATE)
317BB	10 FT

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

HH 6083
M1-0101-12-038

Horizontal Stabilizer - Electrical Pitch Feel/Trim Assembly
Lubrication
Figure 306


NOTE
SEE 27-61-00, 201, FOR PROCEDURE TO SAFELY RAISE SPOILERS FOR PERFORMING MAINTENANCE IN SPOILER AREA.
ZONES 540, 560
640, 660
LUBE FITTING (ONLY ONE LUBE FITTING AT EACH END REQUIRES LUBRICATION)
1 LUBE FITTINGS
SPOILER SERVO
FLAP
SPOILER
SPOILER HINGE
SPOILER ACTUATOR
A
SPOILER ACTUATOR (TYPICAL EACH SPOILER)
LUBE FITTING 1
1 LUBE FITTING
HINGE BEARING (SPOILER FITTING) (TYPICAL 2 PLACES EACH ON SPOILERS 3, 4, 5 AND 6)
WING TRAILING EDGE
HINGE BEARING (WING FITTING) (TYPICAL 2 PLACES EACH ON SPOILERS 1 AND 2)
B

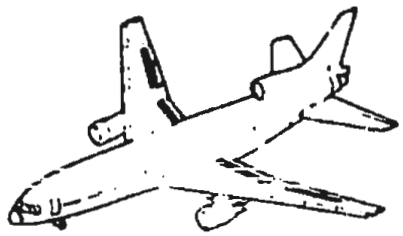
ACCESS		
PANEL	ACCESS TO	ACCESS HEIGHT (APPROXIMATE)
541/641BB	NO. 1 SPOILER ACTUATOR	10 FT
541/641FB	NO. 2 SPOILER ACTUATOR	10 FT
561/661BB	NO. 3 AND NO. 4 SPOILER ACTUATORS AND HINGES	12 FT
561/661CB	NO. 5 AND NO. 6 SPOILER ACTUATORS AND HINGES	14 FT

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0005-12-021

R
R

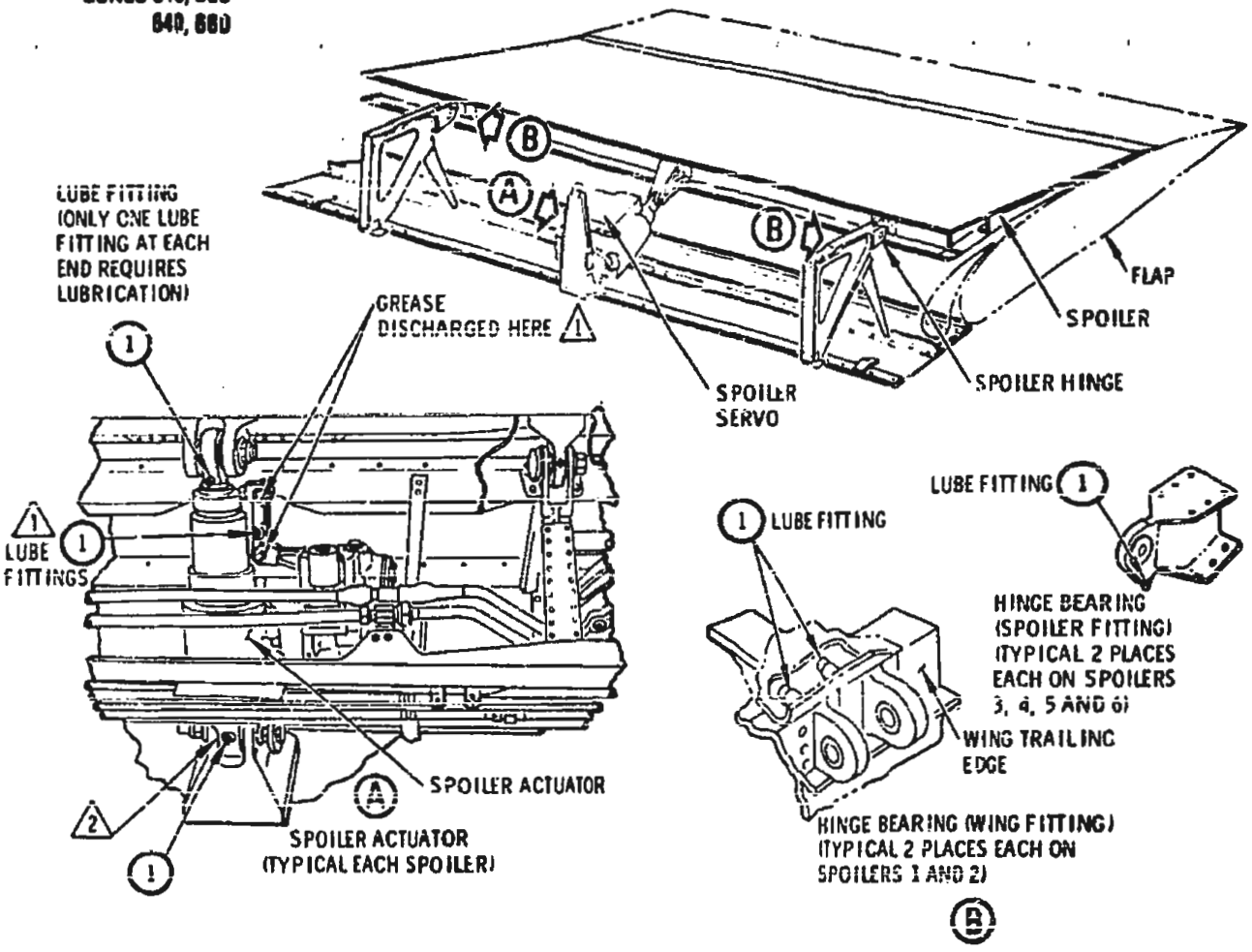
Spoiler Lubrication
Figure 301 (Sheet 1)



ZONES 640, 660
640, 680

NOTE
SEE 27-61-00, 201, FOR PROCEDURE TO SAFELY RAISE SPOILERS FOR PERFORMING MAINTENANCE IN SPOILER AREA.

1. APPLY GREASE AT THIS LUBE FITTING UNTIL GREASE IS DISCHARGED AS INDICATED. MANUALLY MOVING LINK WILL ASSIST LUBRICATION APPLICATION IF GREASE IS NOT DISCHARGED AT PLACES INDICATED
2. IF ACCESS TO ONLY NO. 6 SPOILER SERVO ACTUATOR LUBE FITTING IS REQUIRED, GAIN ACCESS THROUGH ACCESS DOOR LOCATED IN LOWER WING SURFACE PANEL 561/661 CB

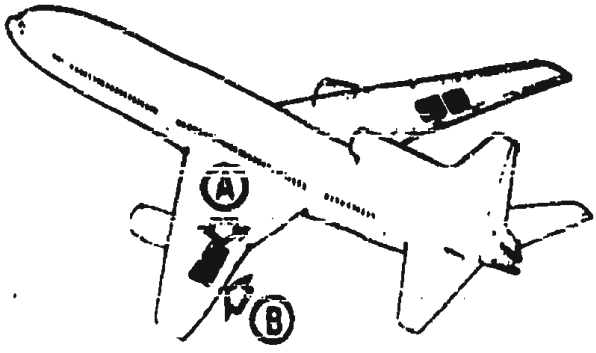

LUBE FITTING (ONLY ONE LUBE FITTING AT EACH END REQUIRES LUBRICATION)
GREASE DISCHARGED HERE
FLAP
SPOILER
SPOILER HINGE
SPOILER SERVO
LUBE FITTINGS
SPOILER ACTUATOR
SPOILER ACTUATOR (TYPICAL EACH SPOILER)
LUBE FITTING
HINGE BEARING (SPOILER FITTING) (TYPICAL 2 PLACES EACH ON SPOILERS 3, 4, 5 AND 6)
WING TRAILING EDGE
HINGE BEARING (WING FITTING) (TYPICAL 2 PLACES EACH ON SPOILERS 1 AND 2)

ACCESS		
PANEL	ACCESS TO *	ACCESS HEIGHT (APPROXIMATE)
541/641BB	NO. 1 SPOILER ACTUATOR	10 FT
541/641FB	NO. 2 SPOILER ACTUATOR	10 FT
561/661BB	NO. 3 AND NO. 4 SPOILER ACTUATORS AND HINGES	12 FT
561/661CB	NO. 5 AND NO. 6 SPOILER ACTUATORS AND HINGES	14 FT

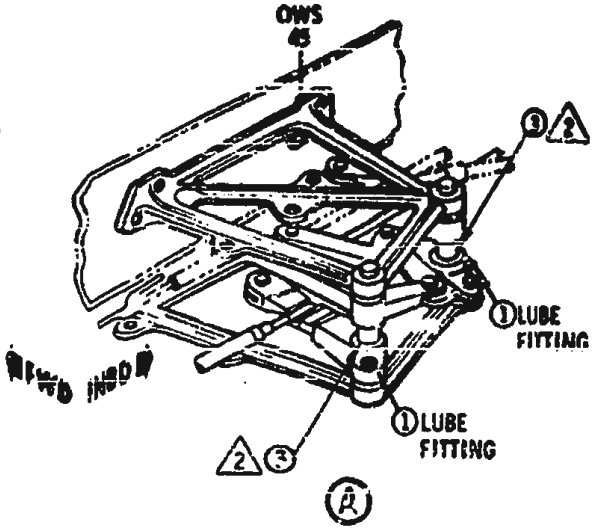
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0000-12-488

Spoiler Lubrication
Figure 301 (Sheet 1)

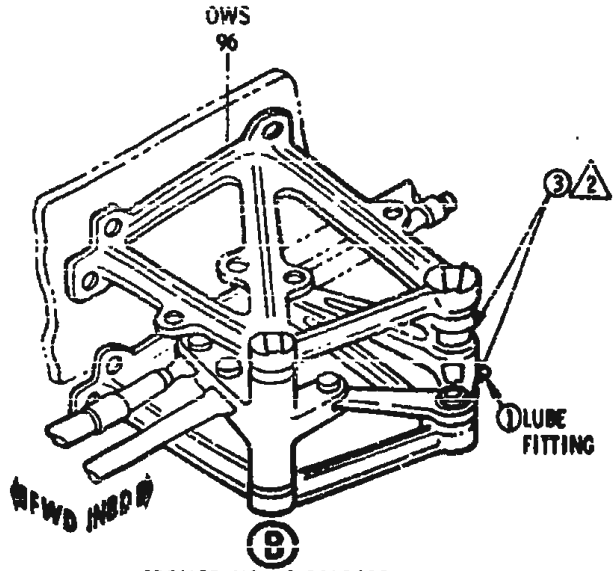


ZONES 560, 660



SPOILER NO. 3 SCISSOR LINKAGE BELLCRANKS

LUBRICANT	NOTE	APPLICATION
①	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
③		OW



SPOILER NO. 4 SCISSOR LINKAGE BELLCRANK ⚠1

ACCESS	
PANEL	ACCESS TO
561/661BB	SPOILERS NO. 3 AND NO. 4 SCISSOR LINKAGE BELLCRANK

NOTE

⚠1 LEFT WING SHOWN, RIGHT WING OPPOSITE

⚠2 LUBE PIVOT POINTS WITH OIL IF LUBE FITTINGS NOT INSTALLED

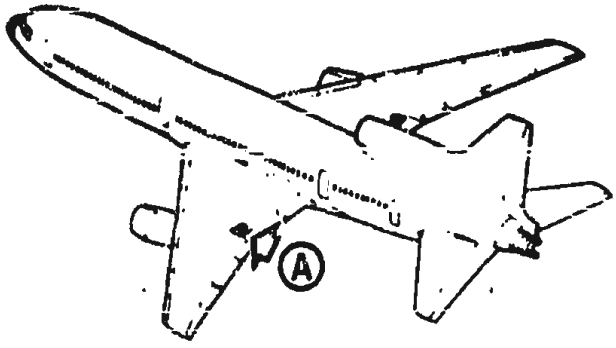
M1-0000-12-196

CR
CR

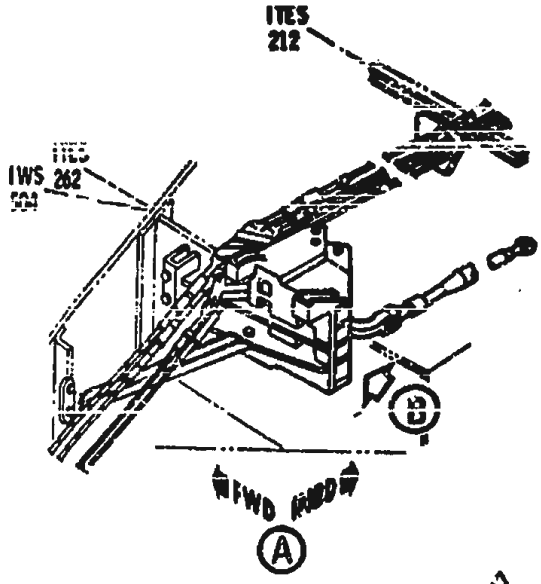
Spoiler Lubrication
Figure 301 (Sheet 2)

EFFECTIVITY: 001-036 WITH SB27-254

001B



ZONES 540, 640



SPOILER CONTROL CABLE IDLER ARM ⚠1
VIEW LOOKING DOWN

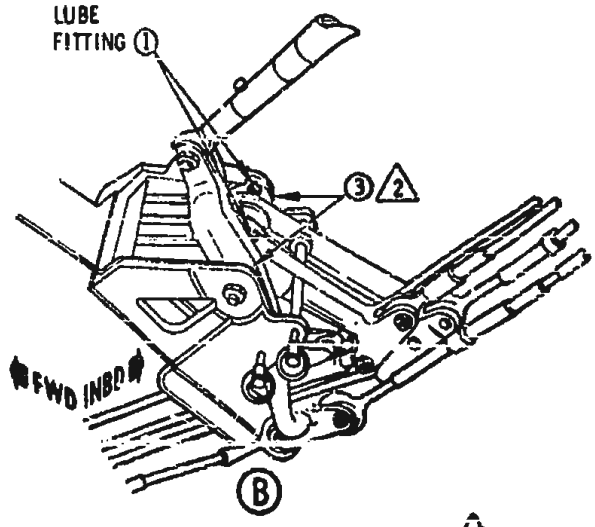
LUBRICANT	NOTE	APPLICATION
①	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
③		

ACCESS	
PANEL	ACCESS TO
541/641BB	SPOILER CONTROL CABLE IDLER ARM

NOTE

⚠1 LEFT WING SHOWN, RIGHT SIDE OPPOSITE

⚠2 LUBE PIVOT POINTS WITH OIL IF LUBE FITTINGS NOT INSTALLED



SPOILER CONTROL CABLE IDLER ARM ⚠1
VIEW LOOKING UP

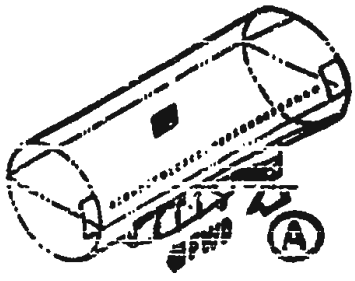
M1-0000-12-197

CR
CR

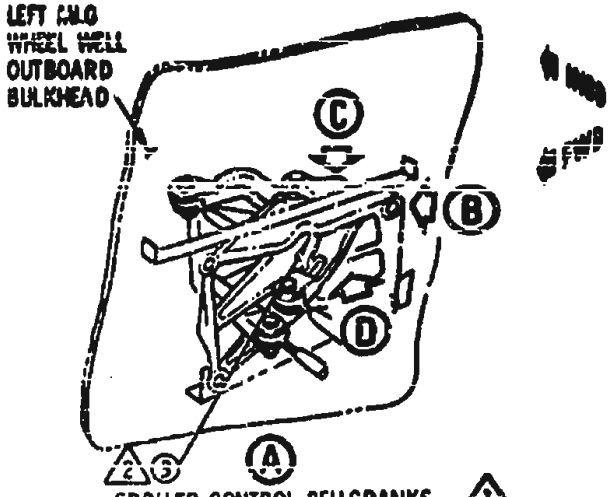
Spoiler Lubrication
Figure 301 (Sheet 3)

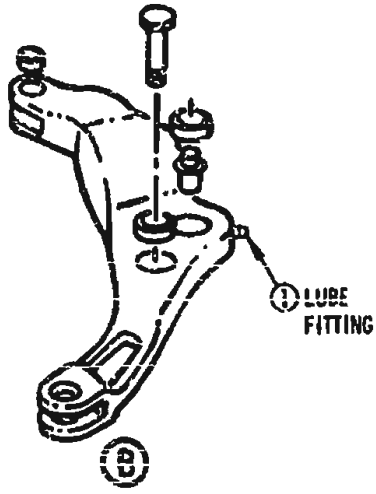
EFFECTIVITY: 001-036 WITH SB27-254

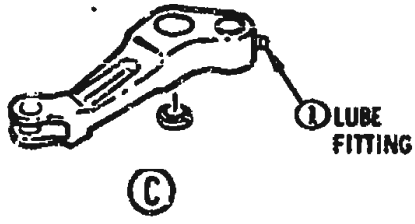
001B

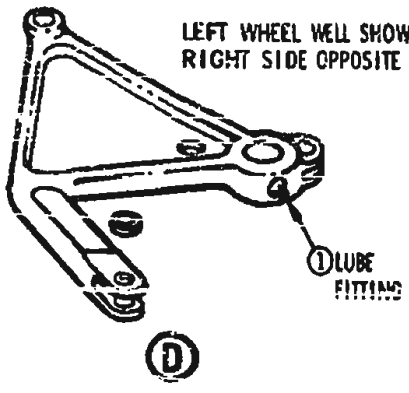


ZONE 149









LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
2		

NOTE

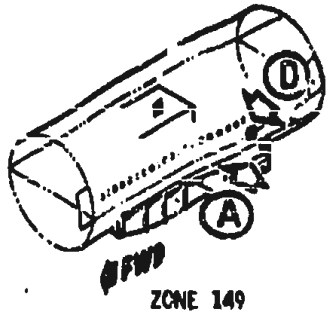
1. LEFT MLG WHEEL WELL SHOWN, RIGHT SIDE OPPOSITE
2. LUBE PIVOT POINTS WITH OIL IF LUBE FITTINGS NOT INSTALLED

M1-0000-12-198

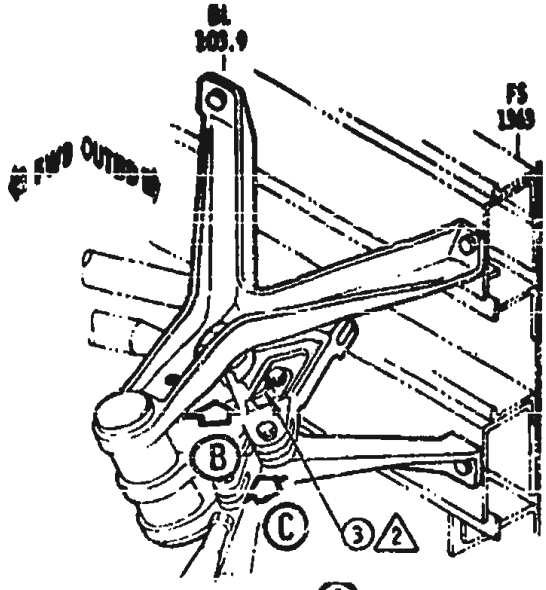
CR
CR

Spoiler Lubrication
Figure 301 (Sheet 4)

EFFECTIVITY: 001-036 WITH SB27-254

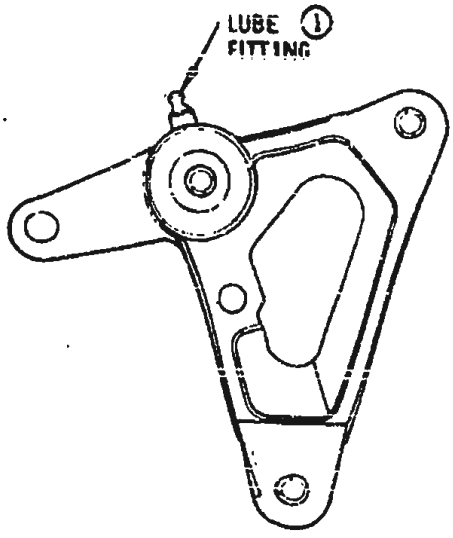


ZONE 149

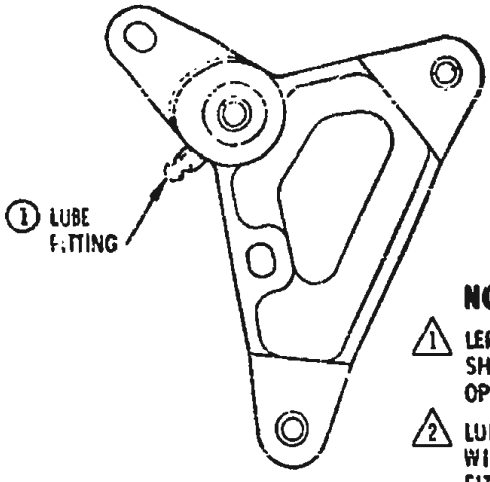


A

SPOILER CONTROL BELLCRANK ⚠1
AFT-OUTBOARD CORNER OF MLG WHEEL WELL



B

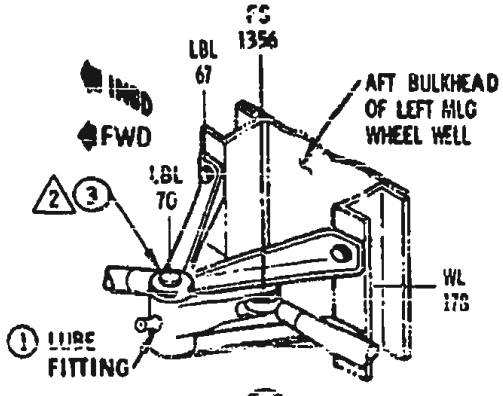


C

NOTE

⚠1 LEFT MLG WHEEL WELL SHOWN. RIGHT SIDE OPPOSITE

⚠2 LUBE PIVOT POINTS WITH OIL IF LUBE FITTINGS NOT INSTALLED



D

SPOILER CONTROL BELLCRANK AT
LEFT MLG WHEEL WELL LBL 70.5

LUBRICANT	NOTE	APPLICATION
①	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
③		

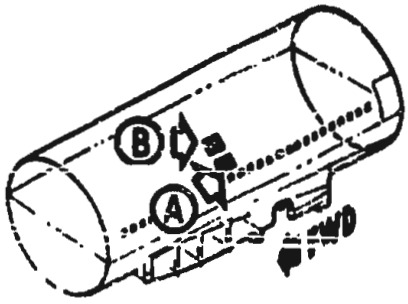
M1-0000-12-199

CR
CR

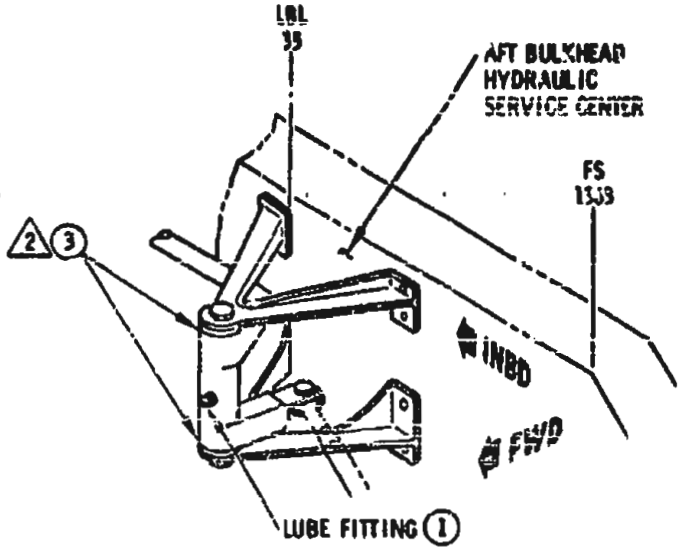
Spoiler Lubrication
Figure 301 (Sheet 5)

EFFECTIVITY: 001-036 WITH SB27-254

0018

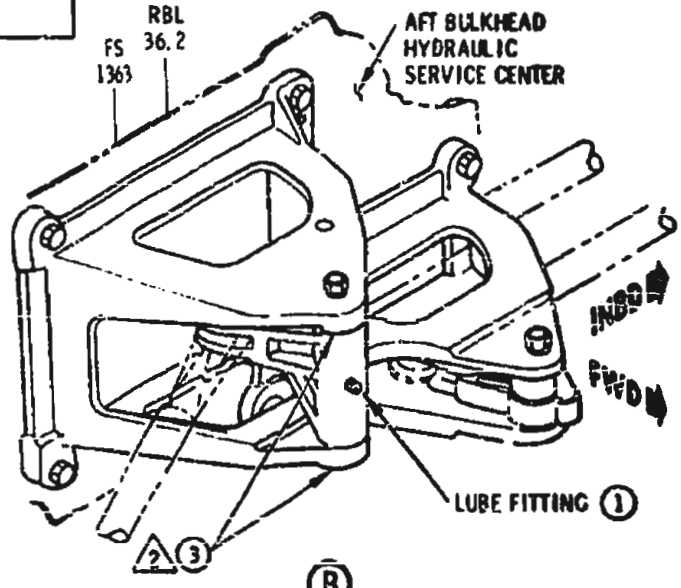


ZONE 147



LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

A
SPOILER CONTROL BELLCRANK
IN HYDRAULIC SERVICE CENTER LBL 36.5



B
SPOILER CONTROL BELLCRANK IN HYDRAULIC SERVICE CENTER RBL 36.2

NOTE

2 LUBE PIVOT POINTS WITH OIL OF LUBE FITTINGS NOT INSTALLED

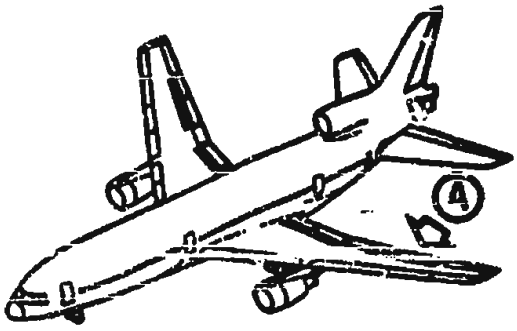
MI-0000-12-200

CR
CR

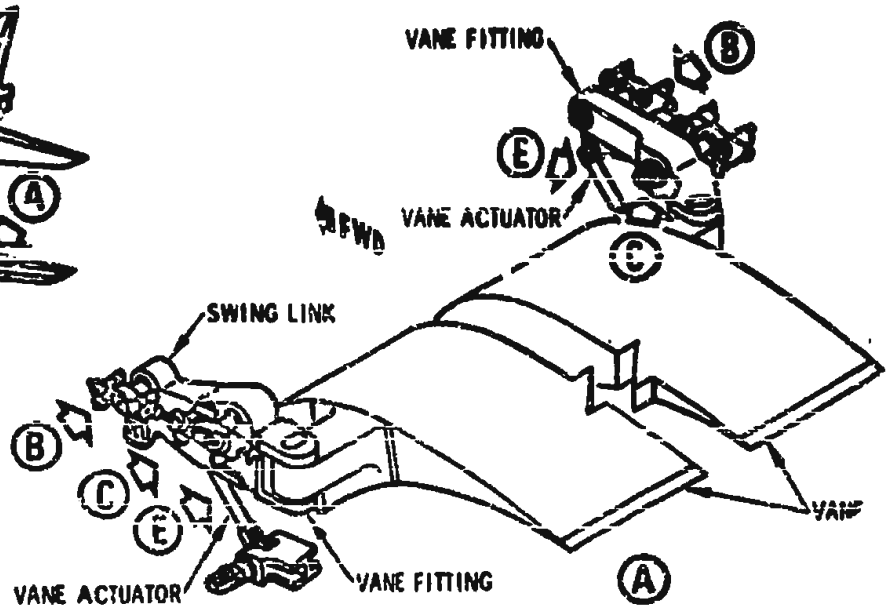
Spoiler Lubrication
Figure 301 (Sheet 6)

EFFECTIVITY: 001-036 WITH SB27-254

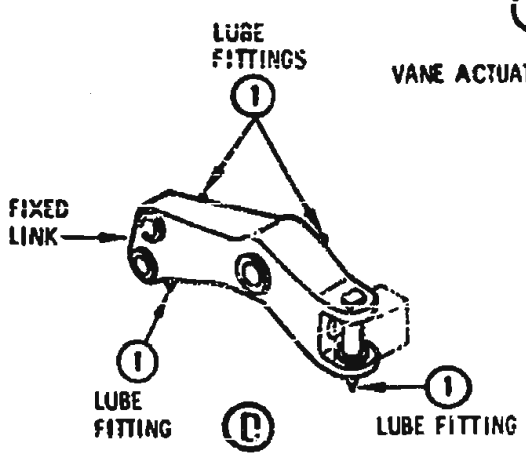
001B

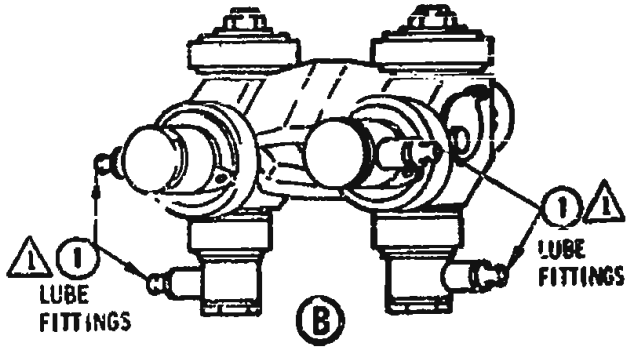


ZONES 540, 560, 640, 660

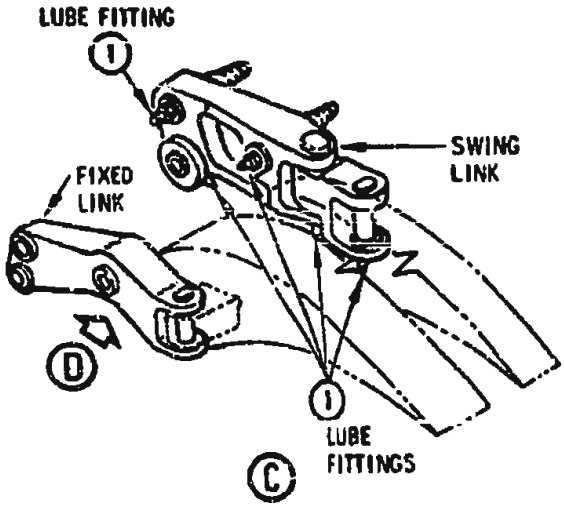


VANE ASSEMBLY
(TYPICAL 4 PLACES EACH WING)





CARRIAGE
(TYPICAL 4 PLACES EACH VANE)



NO. 1 VANE LINK ASSEMBLIES
(CARRIAGES REMOVED)

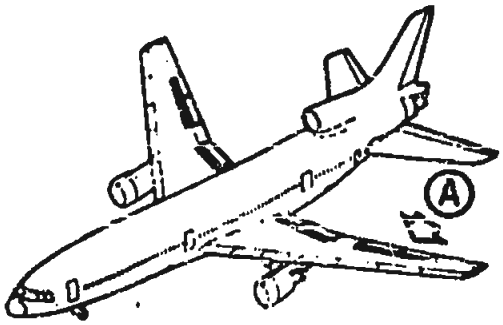
LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

NOTE

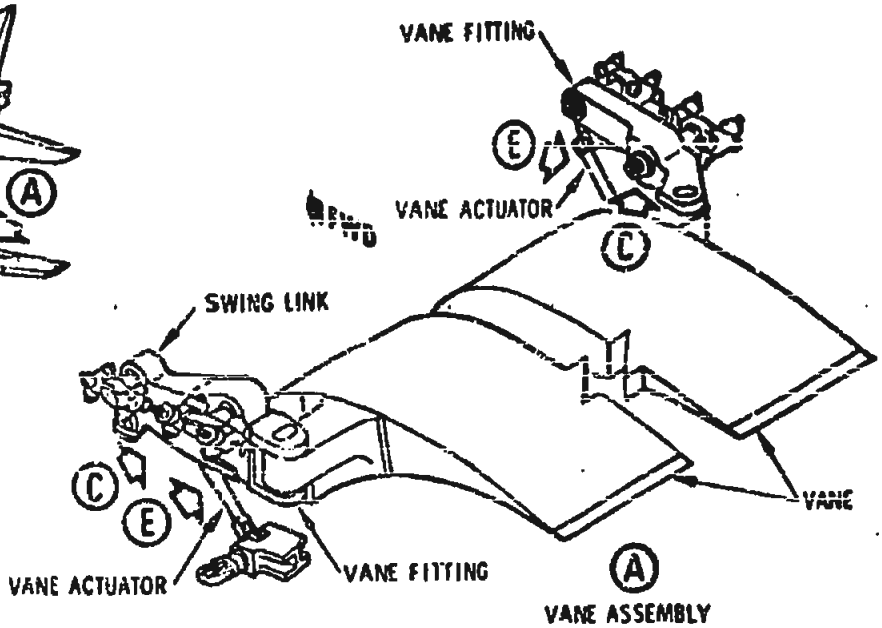
⚠1 ENSURE LUBE OF CARRIAGE ROLLERS INSIDE TRACK BY VERIFYING THAT LUBE EMITS FROM INSIDE ROLLERS - USE MIRROR IF NECESSARY

M1-0103-12-022

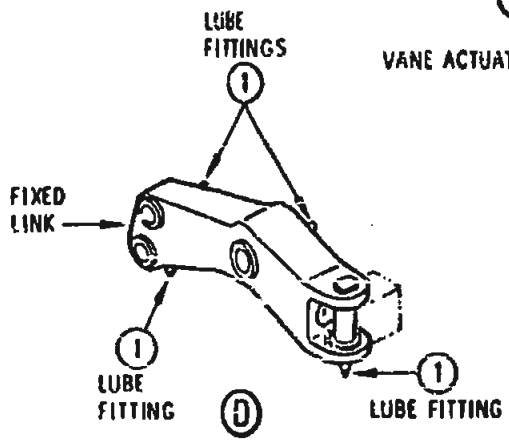
Wing Flap Vane Lubrication
Figure 302 (Sheet 1)

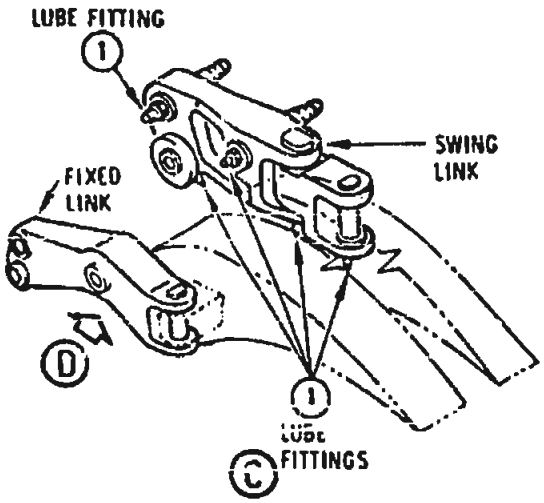


ZONES 540, 560, 640, 660



VANE ASSEMBLY
(TYPICAL 4 PLACES EACH WING)





NO. 1 VANE LINK ASSEMBLIES
(CARRIAGES REMOVED)

LUBRICANT	NOTE	APPLICATION
①	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

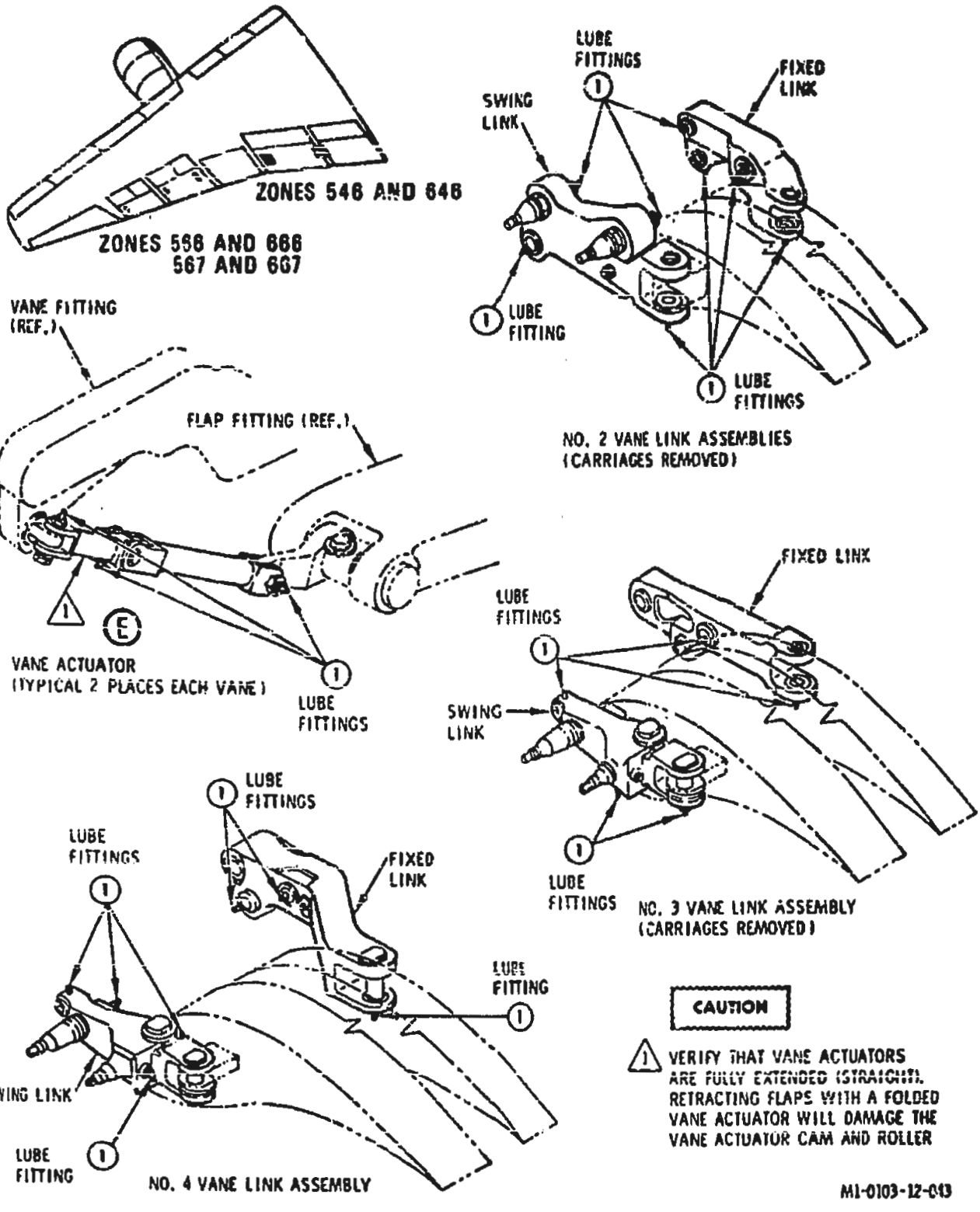
NOTE

⚠ ENSURE LUBE OF CARRIAGE ROLLERS INSIDE TRACK BY VERIFYING THAT LUBE EMITS FROM INSIDE ROLLERS - USE MIRROR IF NECESSARY

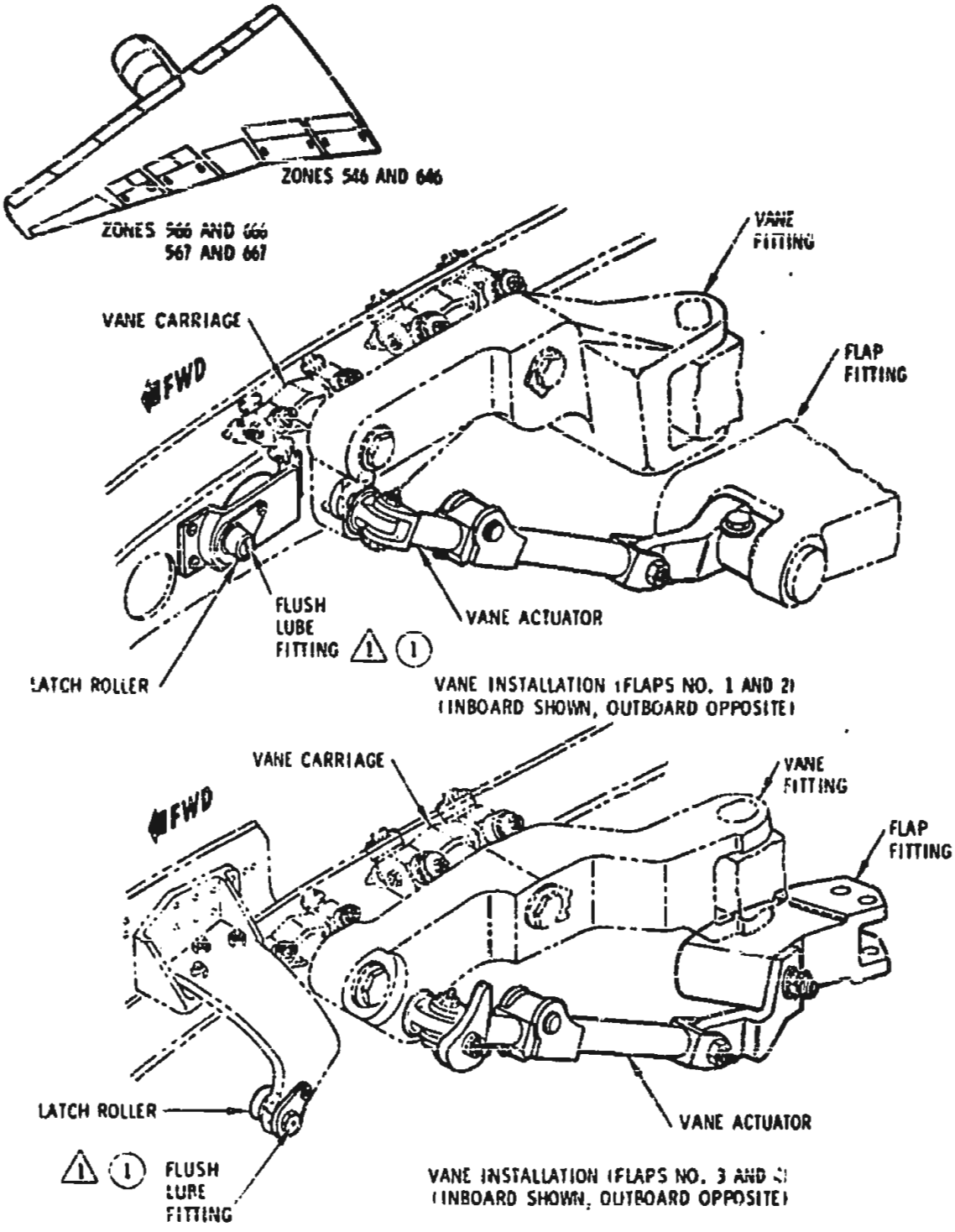
M1-0000-12-456

Wing Flap Vane Lubrication
Figure 302 (Sheet 1)

EFFECTIVITY: 001-031 WITH SB57-119 AND 032-999



Wing Flap Vane Lubrication
Figure 302 (Sheet 2)

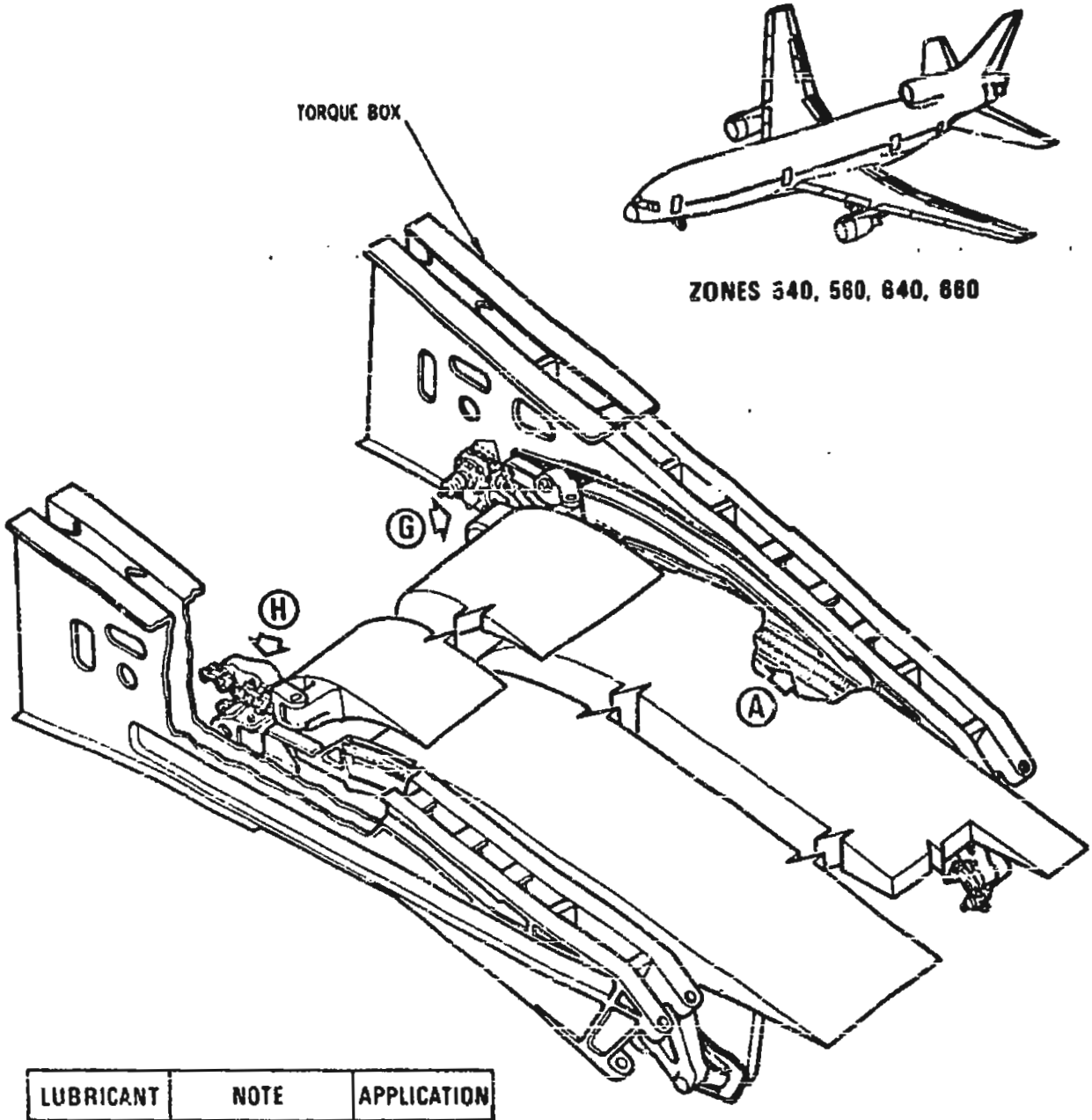


NOTE

⚠ TO LUBE FLUSH FITTINGS, USE A NEEDLE NOSE LUBRICATION COUPLER WITH ADAPTER

M1-0000-12-458

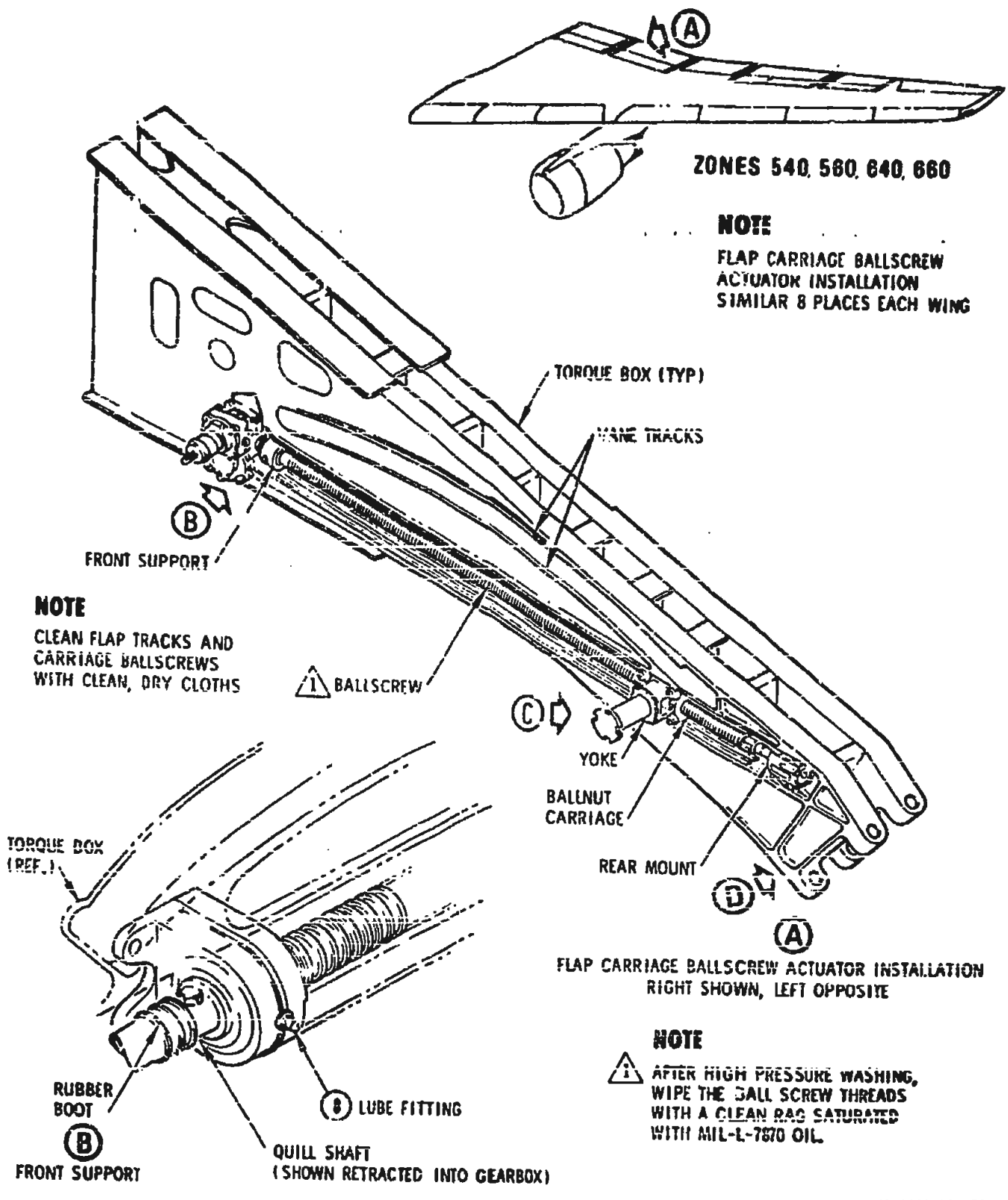
Wing Flap Vane Lubrication
Figure 302 (Sheet 3)



LUBRICANT	NOTE	APPLICATION
①	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
⑧		

M1-0305-12-094

Wing Flap Lubrication
Figure 303 (Sheet 1)



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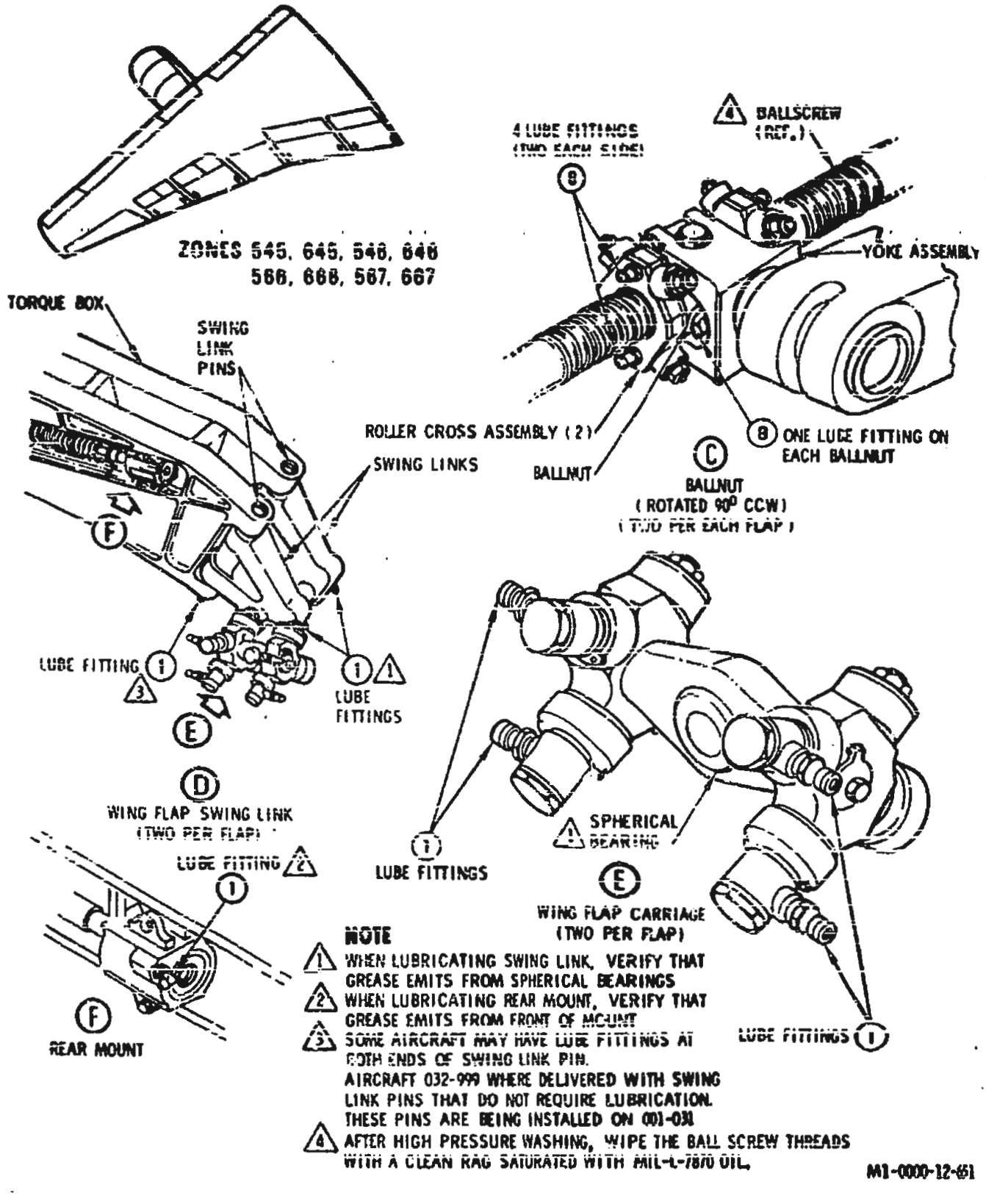
Wing Flap Lubrication
Figure 303 (Sheet 2)

EFFECTIVITY: ALL

001B



NOTE

1. WHEN LUBRICATING SWING LINK, VERIFY THAT GREASE EMITS FROM SPHERICAL BEARINGS
2. WHEN LUBRICATING REAR MOUNT, VERIFY THAT GREASE EMITS FROM FRONT OF MOUNT
3. SOME AIRCRAFT MAY HAVE LUBE FITTINGS AT BOTH ENDS OF SWING LINK PIN.
   AIRCRAFT 032-999 WHERE DELIVERED WITH SWING LINK PINS THAT DO NOT REQUIRE LUBRICATION. THESE PINS ARE BEING INSTALLED ON 001-031
4. AFTER HIGH PRESSURE WASHING, WIPE THE BALL SCREW THREADS WITH A CLEAN RAG SATURATED WITH MIL-L-7870 OIL.

M1-0000-12-661

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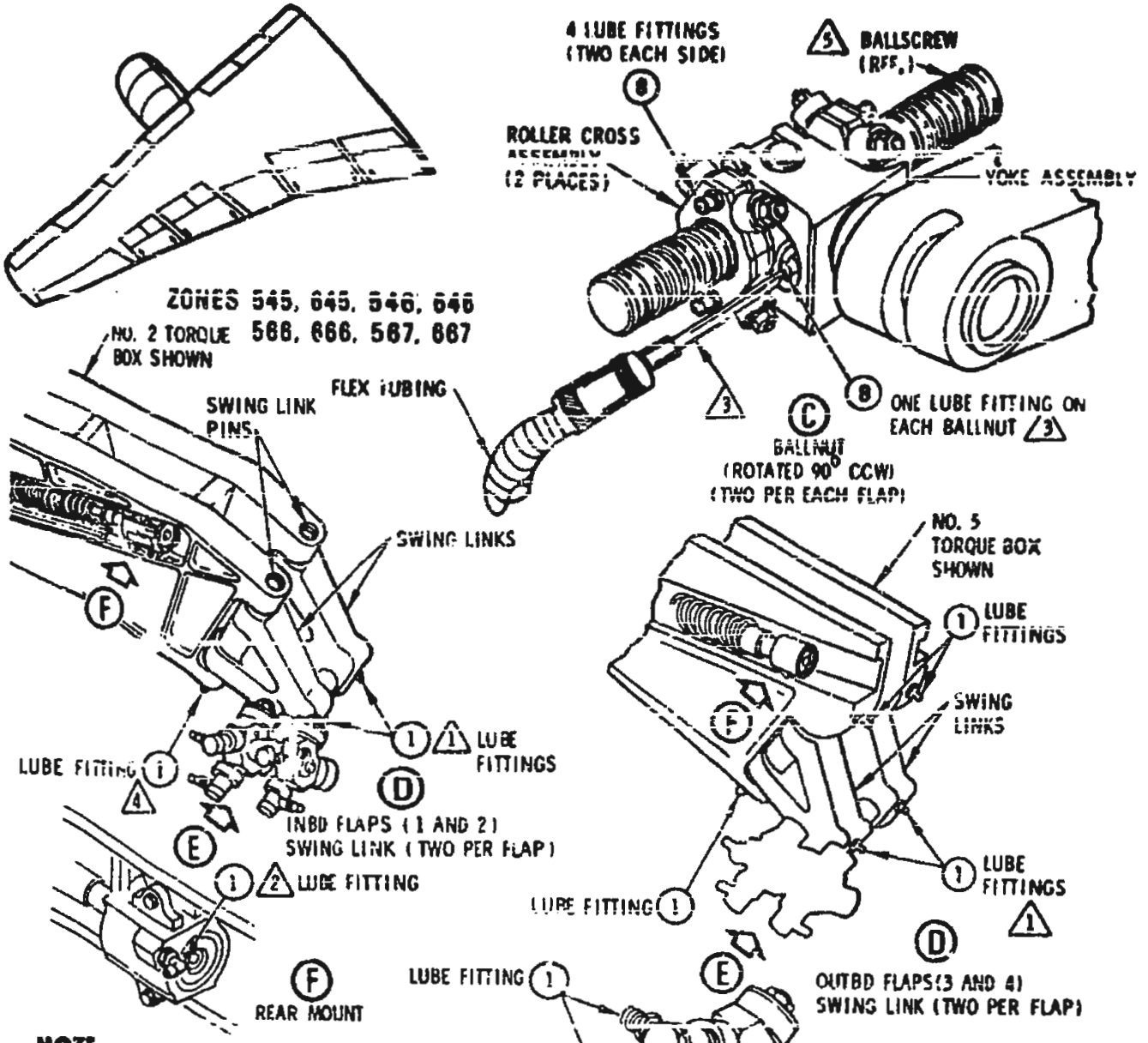
Wing Flap Lubrication
Figure 303 (Sheet 3)

EFFECTIVITY: 001-031 WITHOUT SB27-121



NOTE

1. WHEN LUBRICATING SWING LINK, VERIFY THAT GREASE EMITS FROM SPHERICAL BEARING
2. WHEN LUBRICATING REAR MOUNT, VERIFY THAT GREASE EMITS FROM FRONT OF MOUNT
3. WHEN LUBRICATING OUTBOARD BALLSCREW ACTUATORS FOR FLAPS NO. 1 AND NO. 2 USE A NEEDLE NOSE LUBRICATION COUPLER WITH ADAPTER, ALEMITE P/N 6783, 1 1/2 INCH LONG OR LONGER
4. SOME AIRCRAFT MAY HAVE LUBE FITTINGS AT BOTH ENDS OF SWING LINK PIN.
   AIRCRAFT 032-999 WHERE DELIVERED WITH SWING LINK PINS THAT DO NOT REQUIRE LUBRICATION. THESE PINS ARE BEING INSTALLED ON 001-031
5. AFTER HIGH PRESSURE WASHING, WIPE THE BALL SCREW THREADS WITH A CLEAN RAG SATURATED WITH MIL-L-7870 OIL

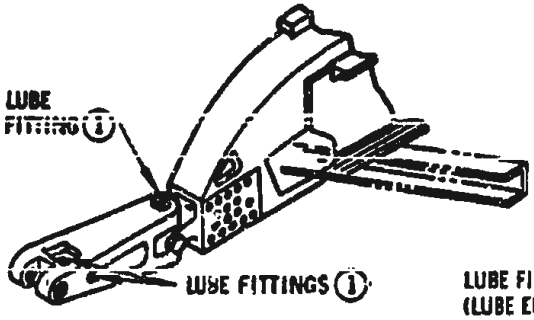
M1-0000-12-652

CR
CR

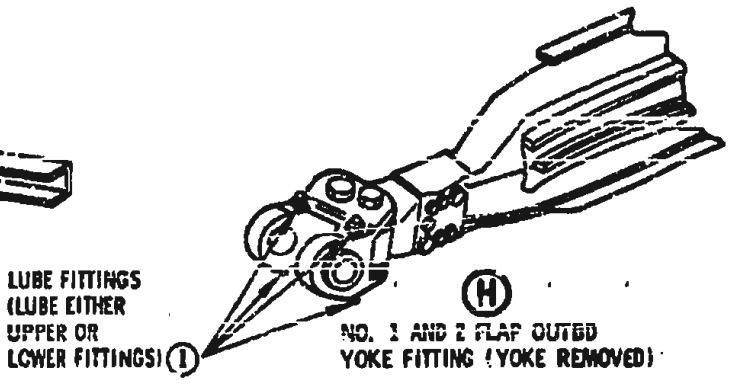
Wing Flap Lubrication
Figure 303 (Sheet 3)

EFFECTIVITY: 001-031 WITH SB27-121 AND 032-999

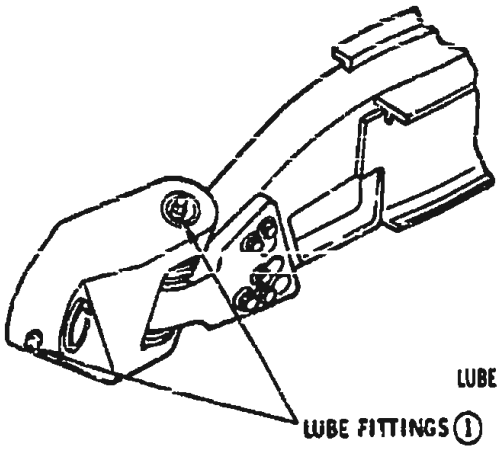
001B



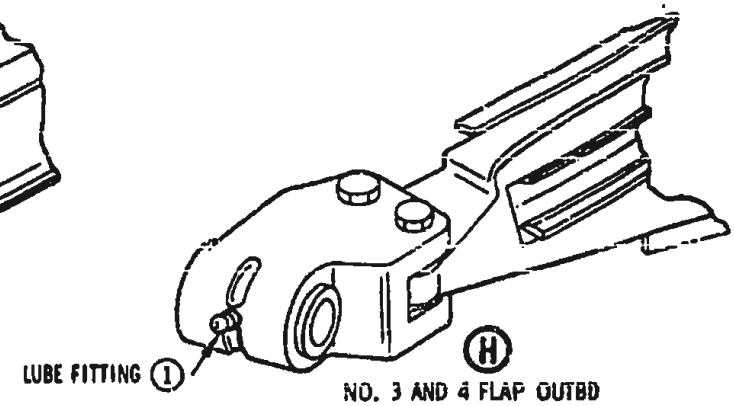
(G) NO. 1 AND 2 FLAP INBD SWING LINK YOKE FITTING (YOKE REMOVED)



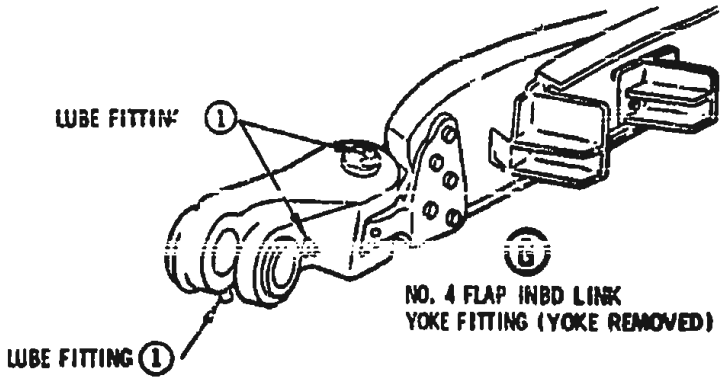
(H) NO. 1 AND 2 FLAP OUTBD YOKE FITTING (YOKE REMOVED)



(G) NO. 3 FLAP INBD SWING LINK YOKE FITTING (YOKE REMOVED)



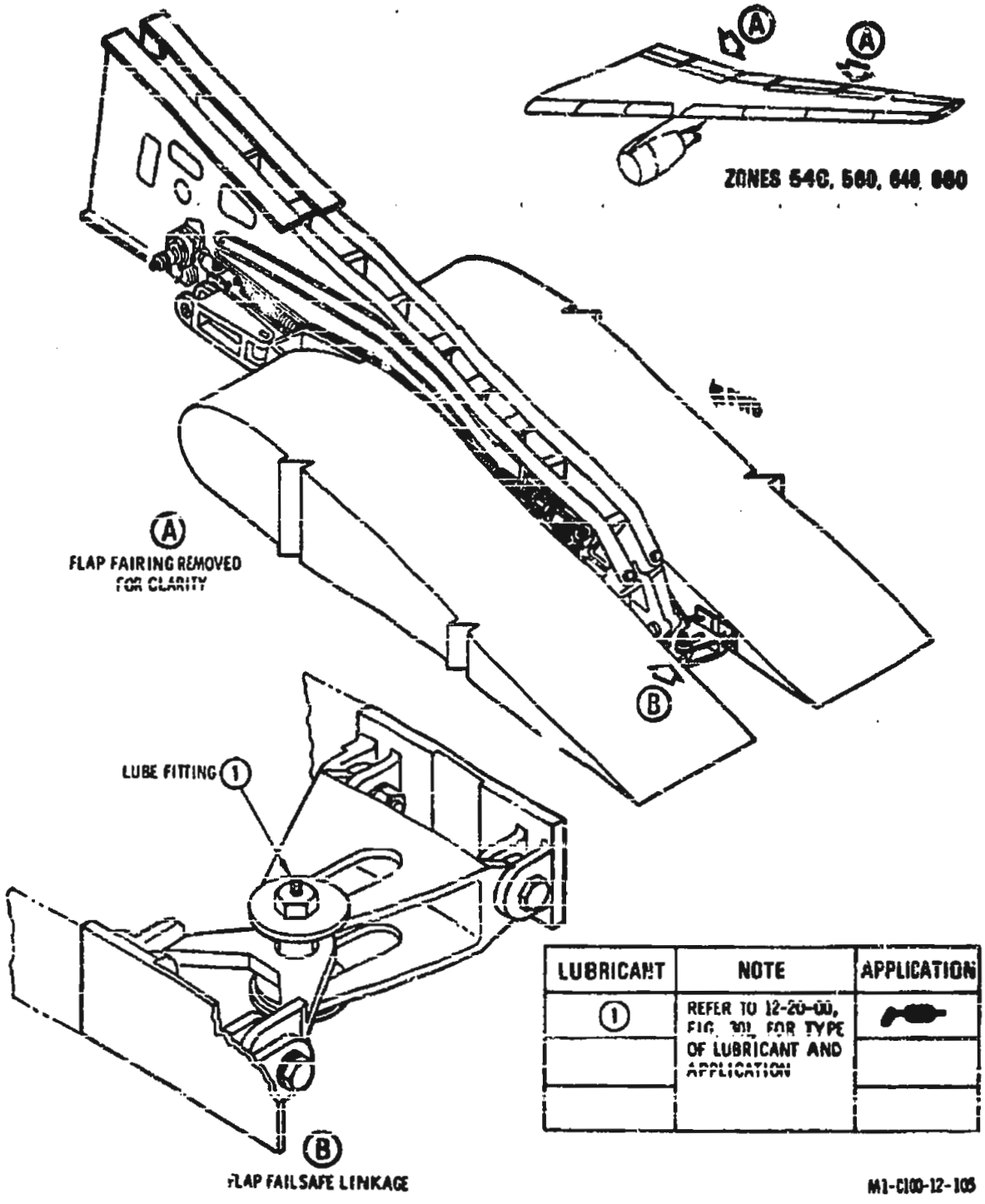
(H) NO. 3 AND 4 FLAP OUTBD YOKE FITTING (YOKE REMOVED)



(G) NO. 4 FLAP INBD LINK YOKE FITTING (YOKE REMOVED)

M1-010-12-158

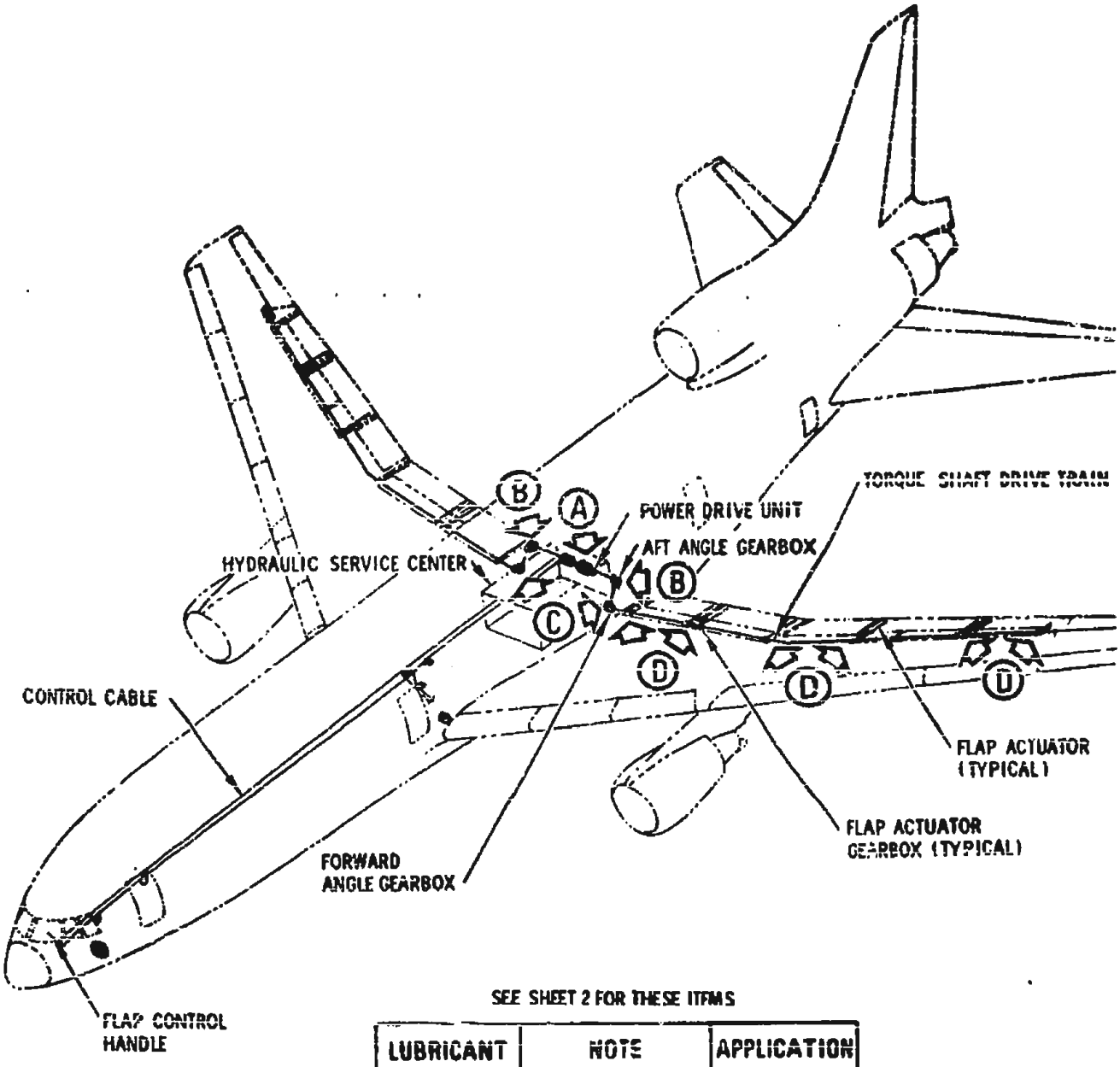
Wing Flap Lubrication
Figure 303 (Sheet 4)



LUBRICANT	NOTE	APPLICATION
(1)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-C100-12-105

Wing Flap Lubrication
Figure 303 (Sheet 5)



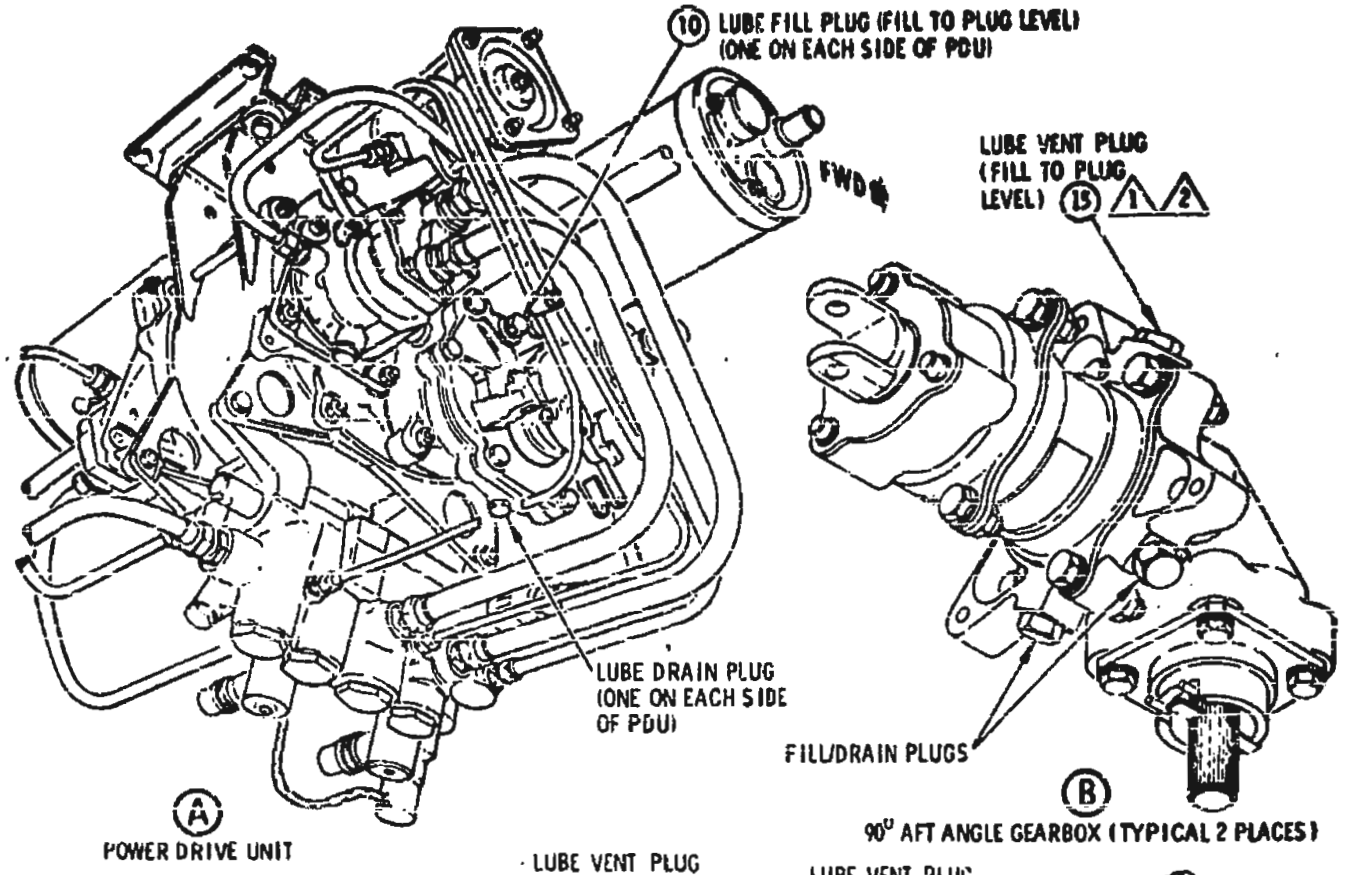
SEE SHEET 2 FOR THESE ITEMS

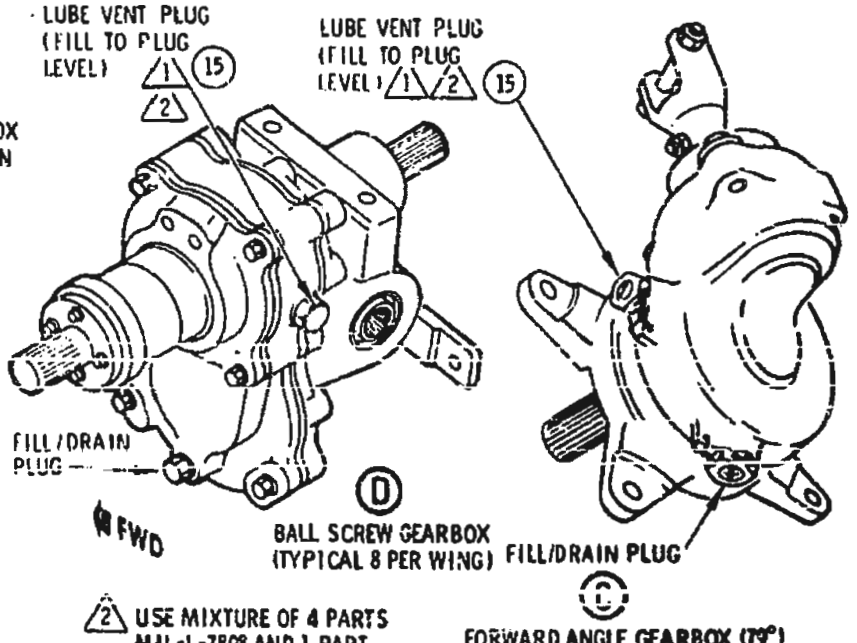
LUBRICANT	NOTE	APPLICATION
⑩	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
⑮		

M1-0009-12-095

CR
CR

Wing Flap Drive System Lubrication
Figure 304 (Sheet 1)


10 LUBE FILL PLUG (FILL TO PLUG LEVEL) (ONE ON EACH SIDE OF PDU)
FWD
LUBE VENT PLUG (FILL TO PLUG LEVEL) 15 1 2
LUBE DRAIN PLUG (ONE ON EACH SIDE OF PDU)
FILL/DRAIN PLUGS
A
POWER DRIVE UNIT
B
90° AFT ANGLE GEARBOX (TYPICAL 2 PLACES)


LUBE VENT PLUG (FILL TO PLUG LEVEL) 1 2 15
LUBE VENT PLUG (FILL TO PLUG LEVEL) 1 2 15
FILL/DRAIN PLUG
FWD
D
BALL SCREW GEARBOX (TYPICAL 8 PER WING)
FILL/DRAIN PLUG
C
FORWARD ANGLE GEARBOX (79°) (TYPICAL 2 PLACES)

NOTE

1. FILL EACH ANGLE AND ACTUATOR GEARBOX THROUGH THE CHECK VALVE INSTALLED IN THE DRAIN PORT AS FOLLOWS:
   - A REMOVE CAP FROM THE CHECK VALVE.
   - B REMOVE PLUG FROM THE FILL PORT.
   - C CONNECT SERVICING UNIT TO THE CHECK VALVE.
   - D SLOWLY PUMP OIL INTO GEARBOX UNTIL OIL FLOWS FROM FILL PORT.
   - E REMOVE SERVICING UNIT FROM CHECK VALVE.
   - F INSTALL AND SAFETY PLUG IN FILL PORT.
   - G INSTALL AND SAFETY CAP ON CHECK VALVE.

2. USE MIXTURE OF 4 PARTS MIL-L-7808 AND 1 PART MIL-G-23827 MIXTURE TWA STK. NO. 50-0920 REF. MM 12-20-00

M1-0002-12-596

CR Wing Flap Drive System Lubrication
CR Figure 304 (Sheet 2)

LANDING GEAR AND DOORS LUBRICATION AND SERVICING

1. Servicing

Secure the airplane in a clean area suitable for lubrication servicing.

Servicing equipment should include grease guns, oil cans, brushes, clean cloths and other equipment required for proper lubrication.

Observe nose and main gear maintenance practices safety precautions, as outlined in Chapter 32, prior to and during lubrication servicing.

CAUTION: AFTER CLEANING A LANDING GEAR SHOCK STRUT PISTON OR ANY EXPOSED ACTUATOR PISTON USING A SOLVENT OR EQUIVALENT CLEANING SOLUTION, THE PISTON MUST BE
R LUBRICATED USING A CLEAN SOFT CLOTH SATURATED WITH THE HYDRAULIC FLUID SPECIFIED IN THE FOLLOWING PROCEDURES
R FOR THAT PARTICULAR PISTON. AN OIL FILM MUST REMAIN
R ON THE SURFACE.

R AFTER CLEANING A PISTON USING SPECIFIED HYDRAULIC
R FLUID AS A CLEANING AGENT, THE PISTON MAY BE WIPED
R WITH A CLEAN SOFT CLOTH SATURATED WITH HYDRAULIC
R FLUID. AN OIL FILM MUST REMAIN ON THE SURFACE.

The following components require lubrication:

A. Main Landing Gear (Ref. 12-24-01, Fig. 301)

B. Main Landing Gear Truck and Axle (Ref. 12-24-01, Fig. 302)

C. Brake Assembly (Ref. 12-24-02, Fig. 301)

D. Main Landing Gear Doors (Ref. 12-24-11, Fig. 301)

E. Phase Control Valve Linkage (Ref. 12-24-11, Fig. 302)

F. Nose Landing Gear (Ref. 12-24-21, Fig. 301)

G. Spin Brake (Ref. 12-24-21, Fig. 302)

H. Nose Landing Gear Doors (Ref. 12-24-31, Fig. 301)

I. Nose Landing Gear Door Mechanism (Ref. 12-24-31, Fig. 302)

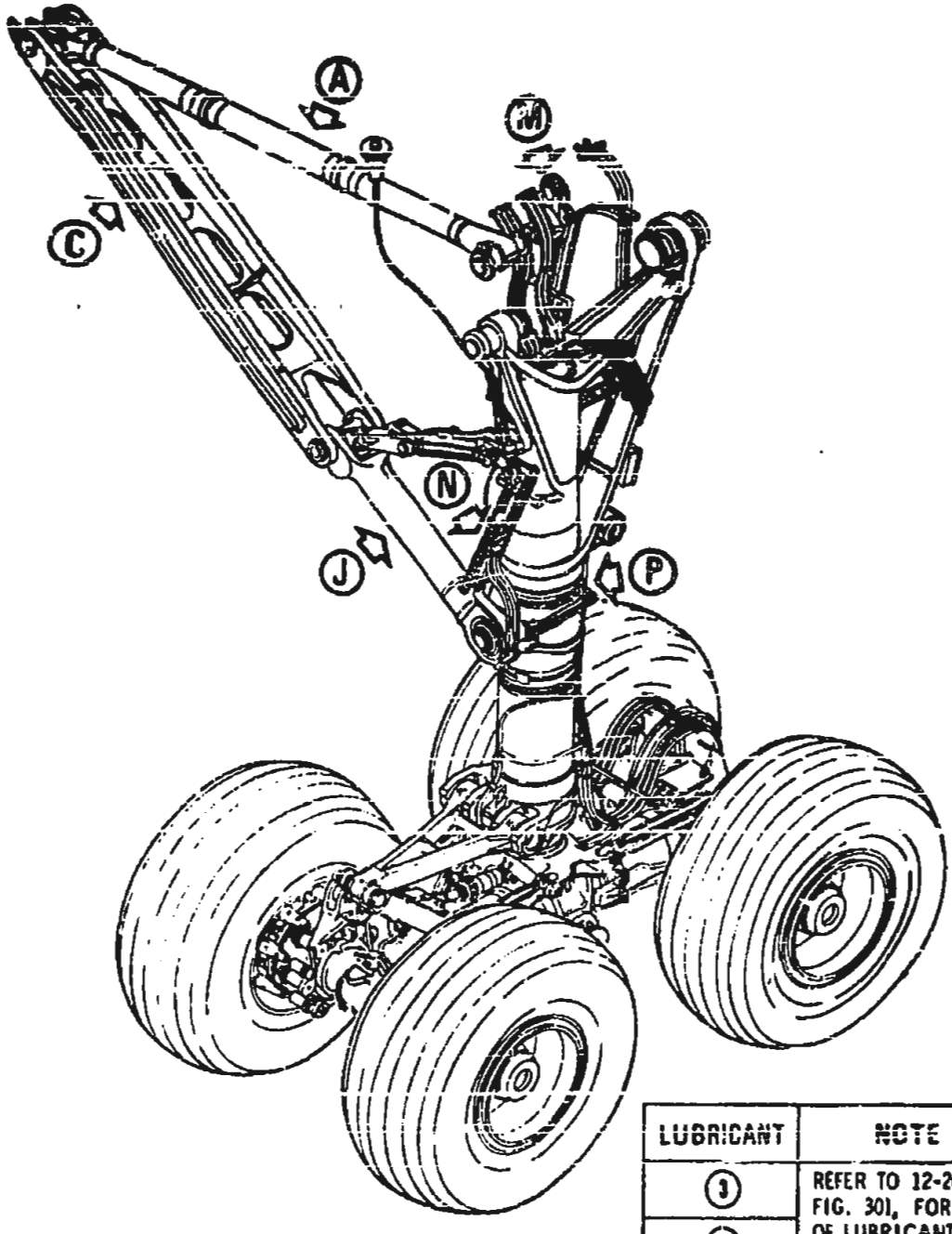
J. Main Landing Gear Mechanical Downlock Indicator (Ref. 12-24-03, Fig. 301)

R

MAIN LANDING GEAR - SERVICING

R 1. Servicing

R This section provides lubrication data for the main landing
R gear.



LUBRICANT	NOTE	APPLICATION
3	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
8		
16		

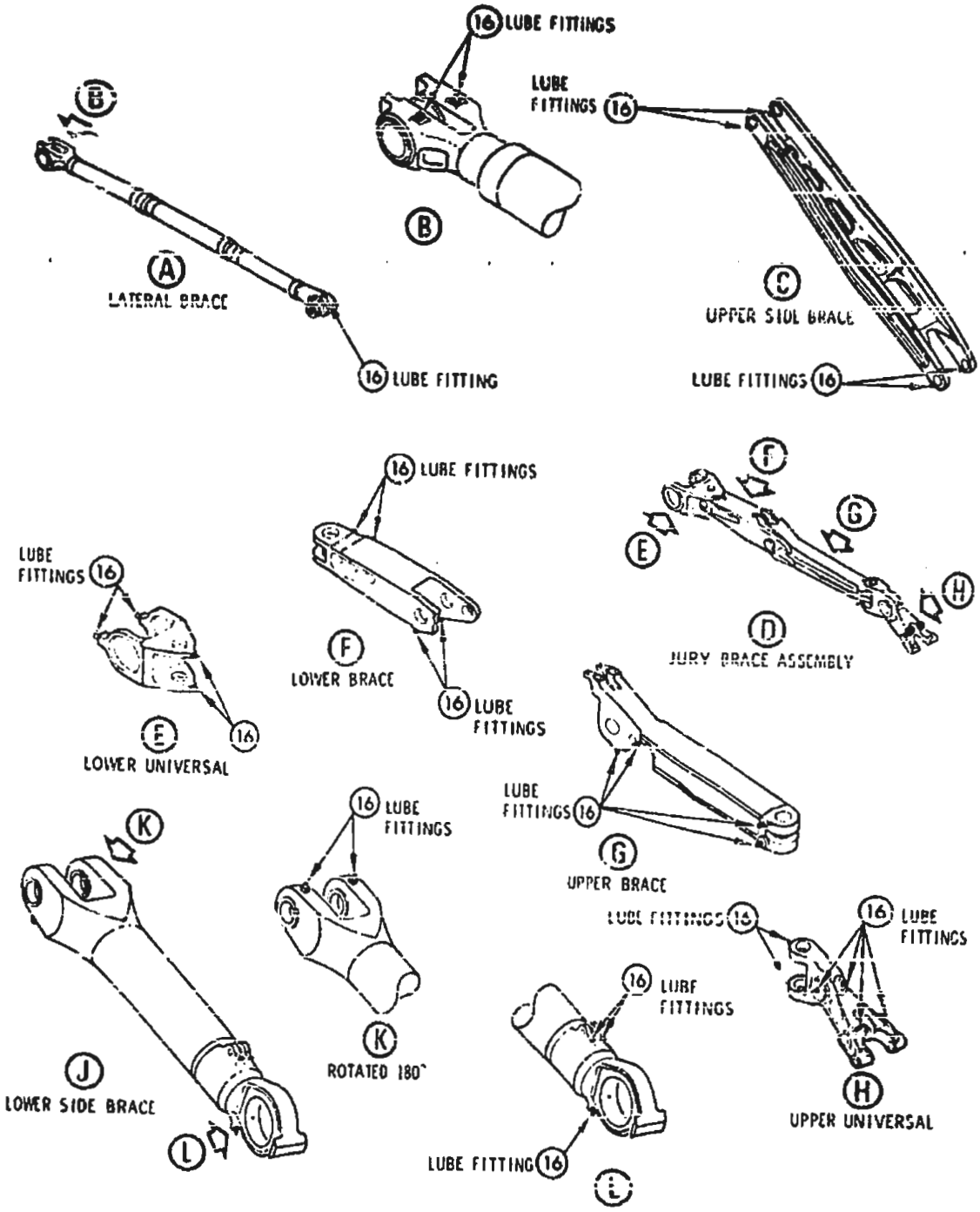
M1-0007-12-001

R
R

Main Landing Gear Lubrication
Figure 301 (Sheet 1)

EFFECTIVITY: ALL

0018

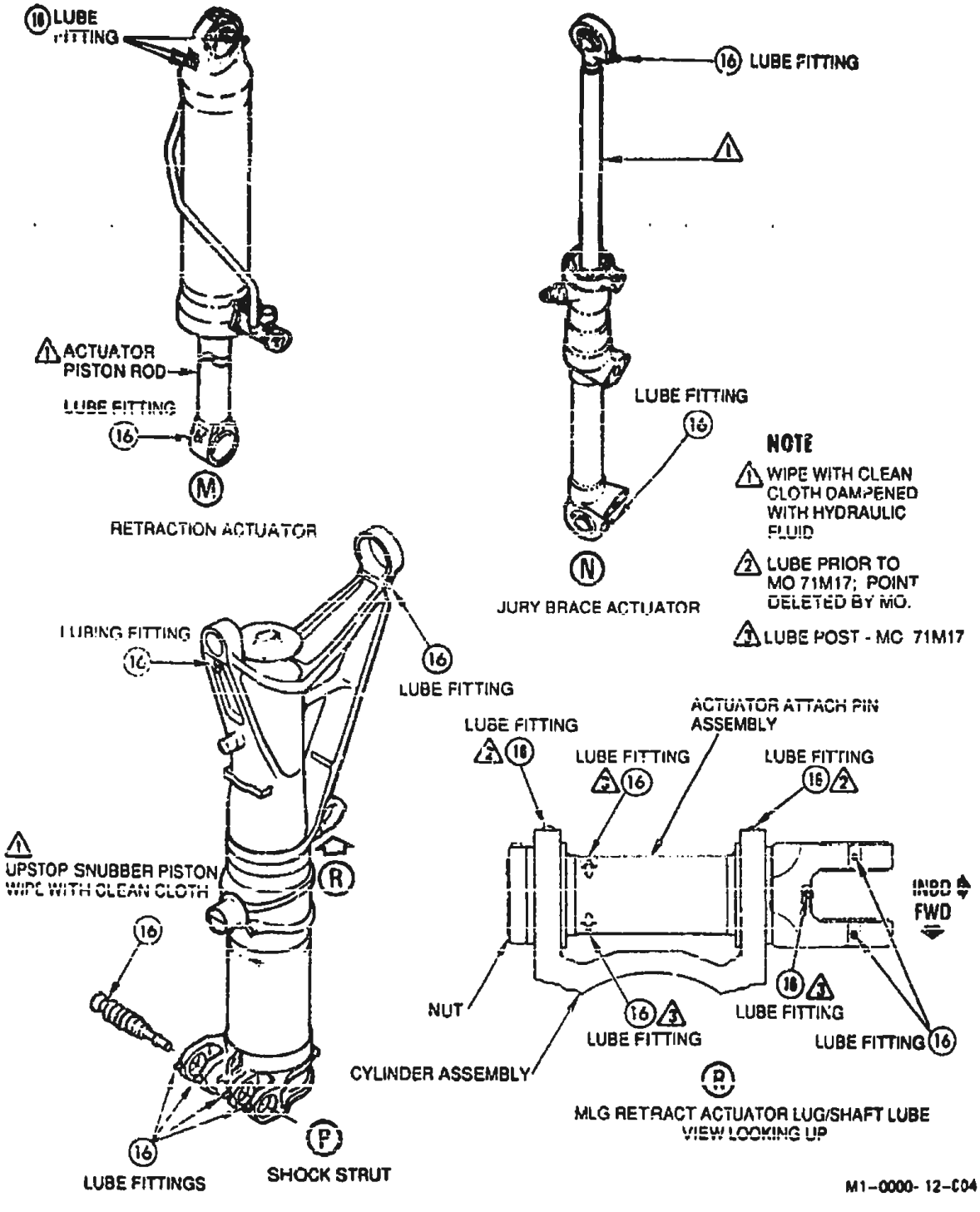


MI-0002-12-054

R Main Landing Gear Lubrication
R Figure 301 (Sheet 2)

EFFECTIVITY: ALL

001B

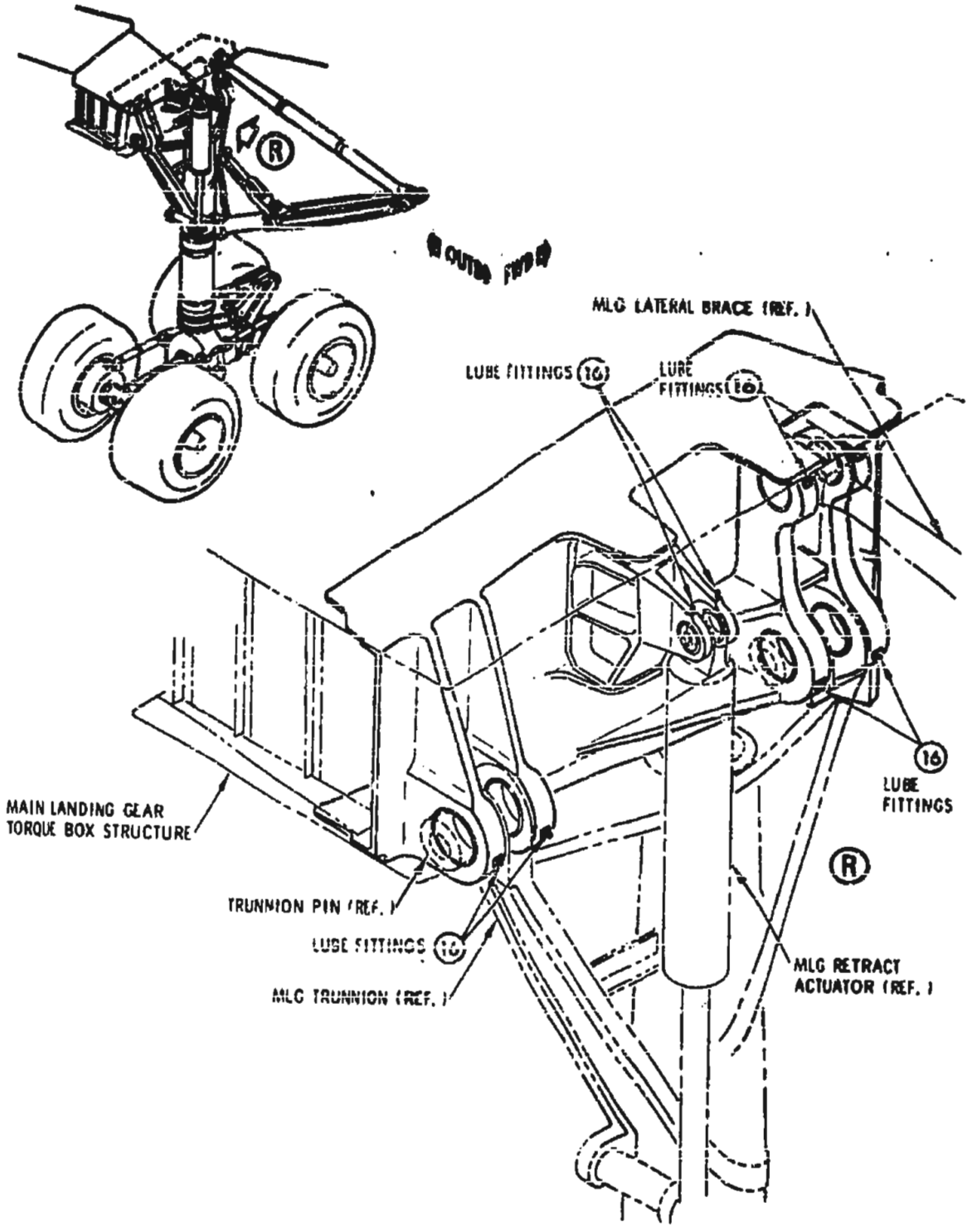


CR
CR

Main Landing Gear Lubrication
Figure 301 (Sheet 3)

EFFECTIVITY: ALL

001B



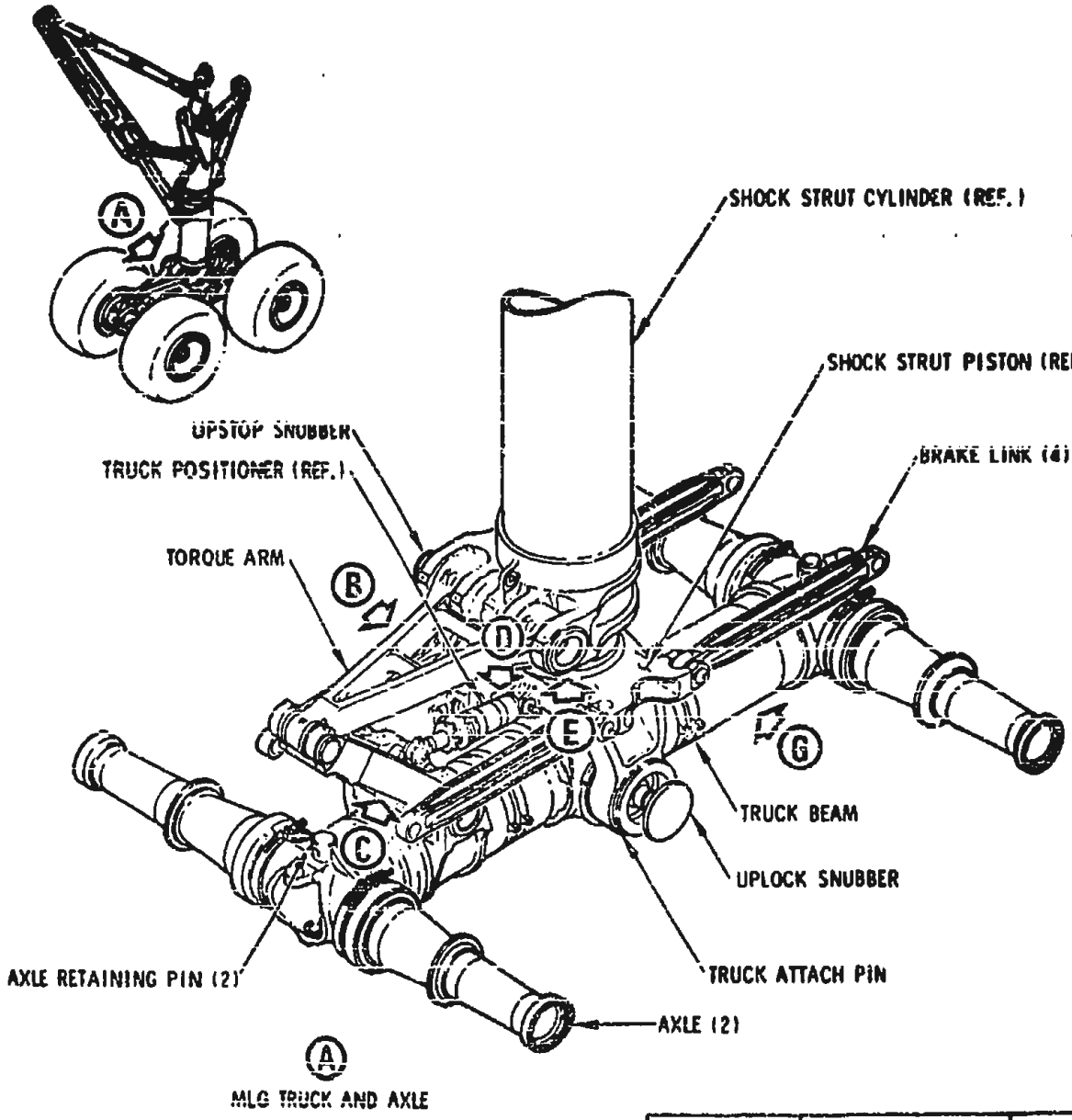
M1-0003-12-005

R
R

Main Landing Gear Lubrication
Figure 301 (Sheet 4)

EFFECTIVITY: ALL

001B



LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
(6)		

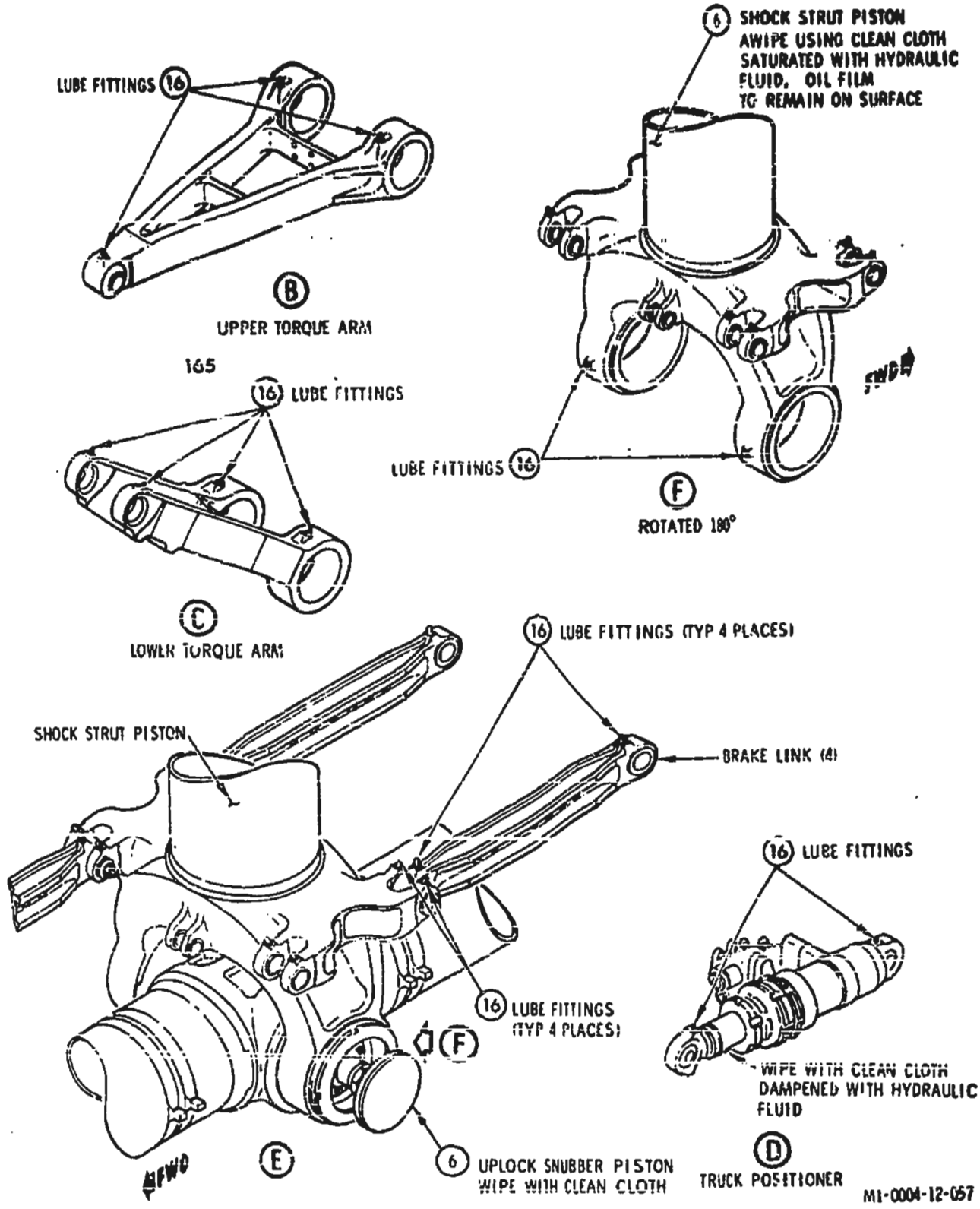
M1-0004-12-056

R
R

Main Landing Gear Truck Lubrication
Figure 302 (Sheet 1)

EFFECTIVITY: ALL

001B

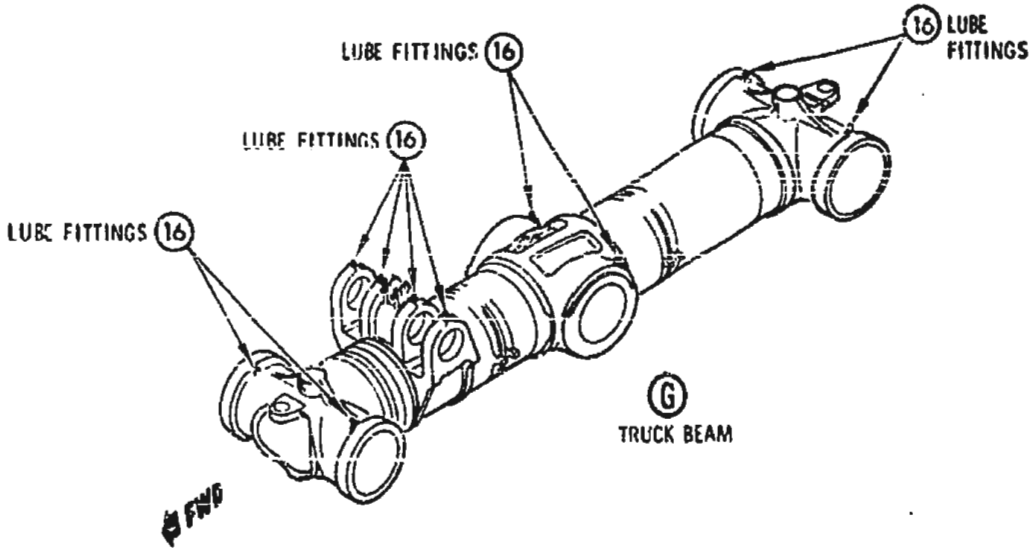


R Main Landing Gear Truck Lubrication
R Figure 302 (Sheet 2)

EFFECTIVITY: ALL

CAUTION

MISSING GREASE FITTINGS MUST BE REPLACED. FAILURE TO LUBRICATE ADEQUATELY AT SCHEDULED INTERVALS MAY RESULT IN PIVOT PIN CRACKING

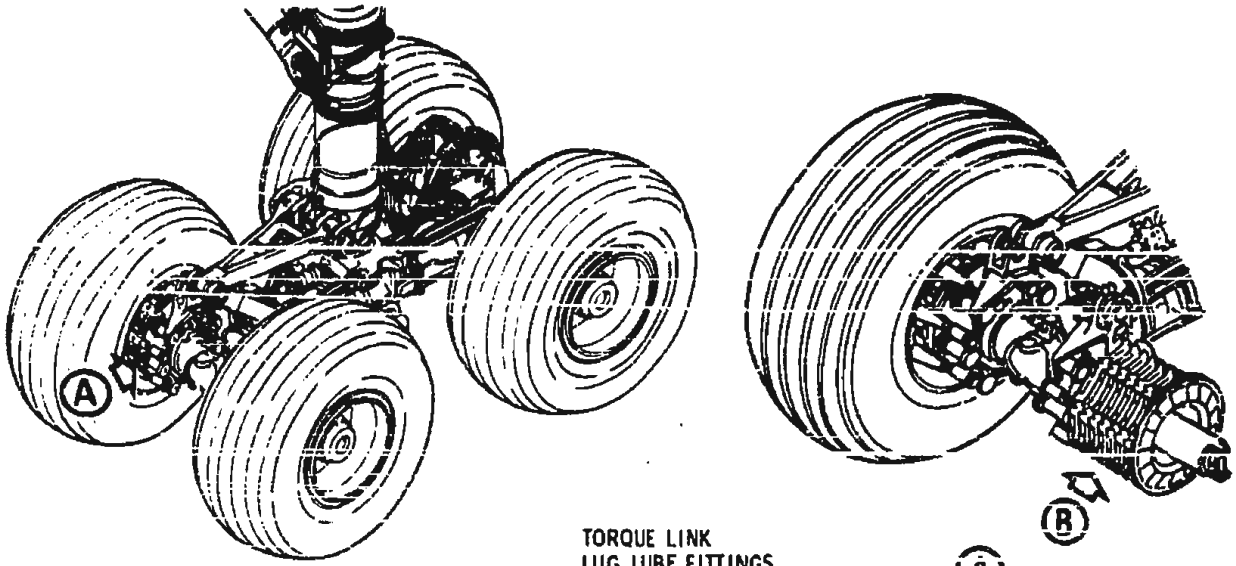


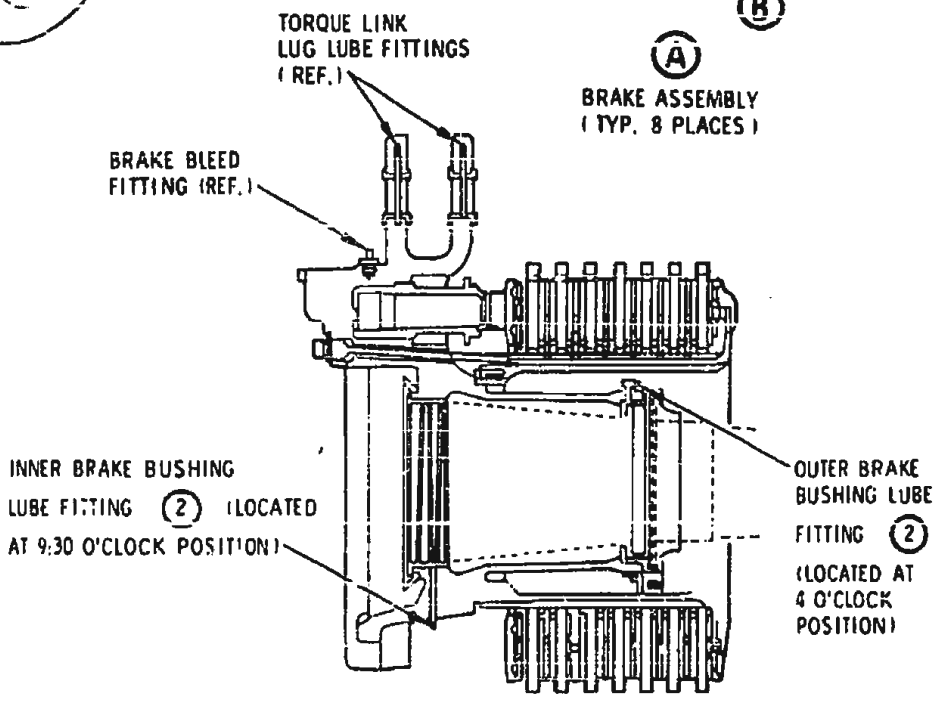
M1-0004-12-058

R Main Landing Gear Truck Lubrication
R Figure 302 (Sheet 3)

EFFECTIVITY: ALL

001B





(A) BRAKE ASSEMBLY (TYP. 8 PLACES)

(B) BRAKE ASSEMBLY CROSS SECTION

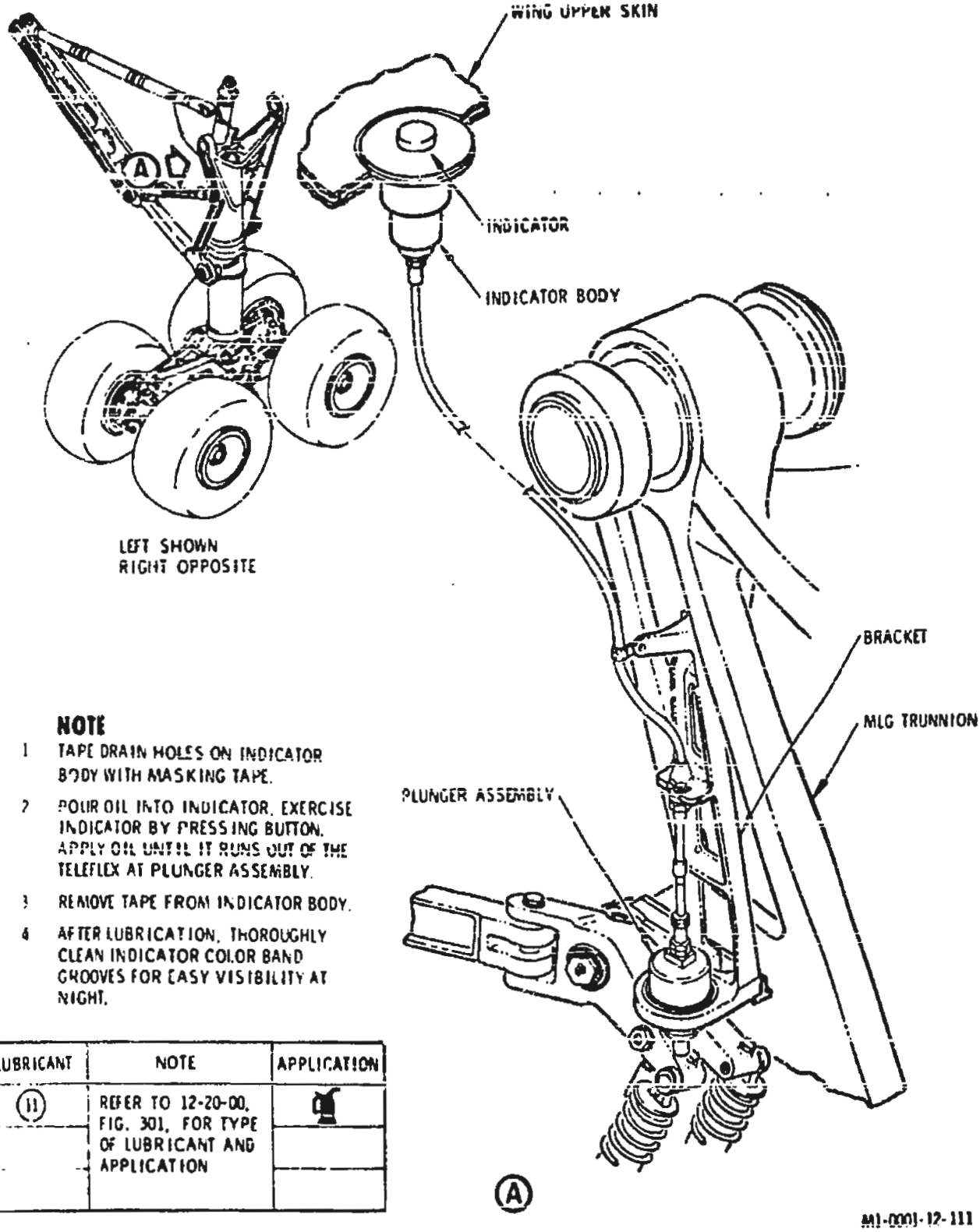
LUBRICANT	NOTE	APPLICATION
(2)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

HH 9640
M1-0102-12-338

R Brake Assembly Lubrication
R Figure 301

EFFECTIVITY: ALL

050B



NOTE

1. TAPE DRAIN HOLES ON INDICATOR BODY WITH MASKING TAPE.
2. POUR OIL INTO INDICATOR. EXERCISE INDICATOR BY PRESSING BUTTON. APPLY OIL UNTIL IT RUNS OUT OF THE TELEFLEX AT PLUNGER ASSEMBLY.
3. REMOVE TAPE FROM INDICATOR BODY.
4. AFTER LUBRICATION, THOROUGHLY CLEAN INDICATOR COLOR BAND GROOVES FOR EASY VISIBILITY AT NIGHT.

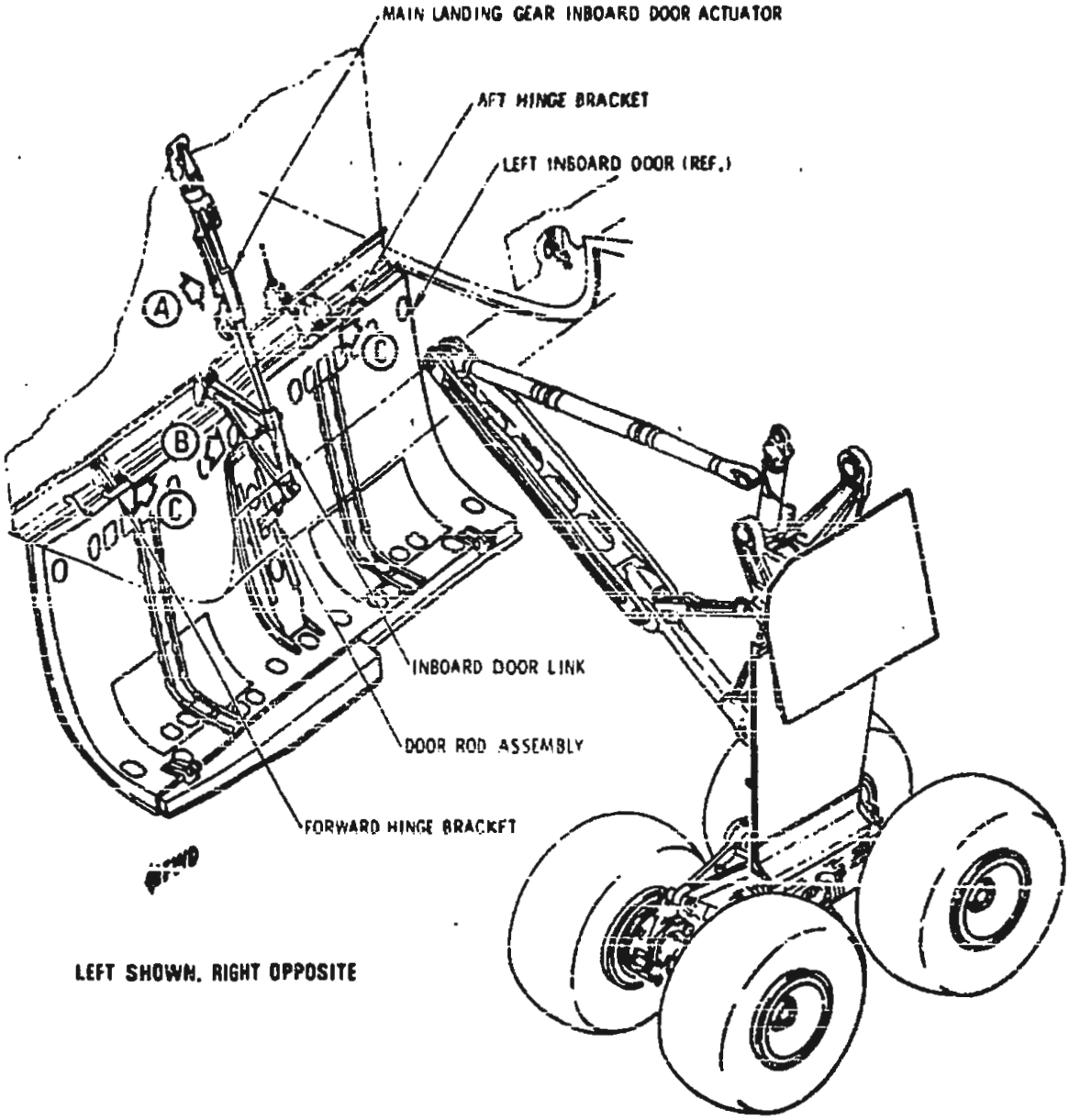
LUBRICANT	NOTE	APPLICATION
(11)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

CR Main Landing Gear Mechanical Downlock Indicator Lubrication
CR Figure 301

EFFECTIVITY: ALL

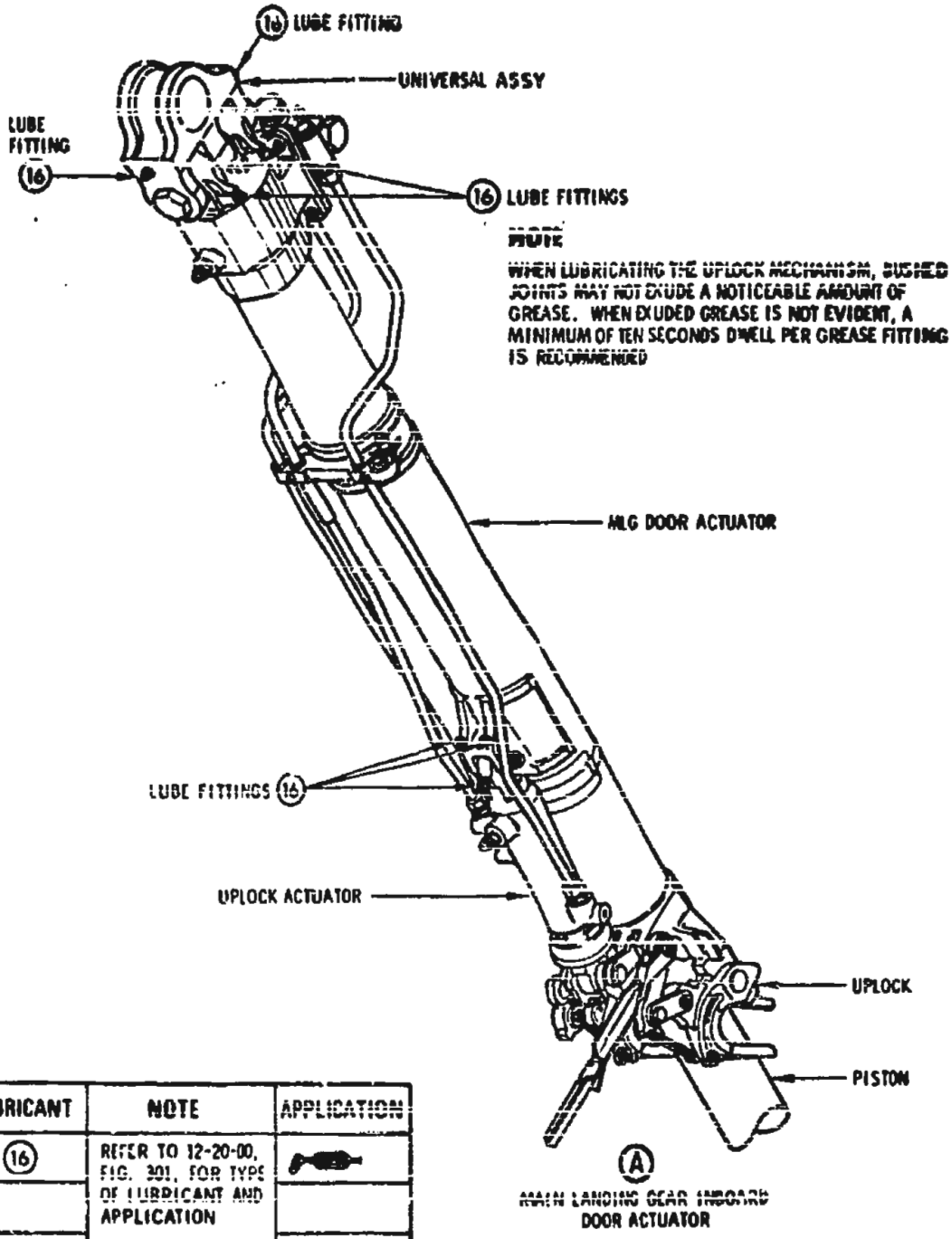
0018

MAIN LANDING GEAR DOORS LUBRICATION



HH 4820
341-0102-12-059

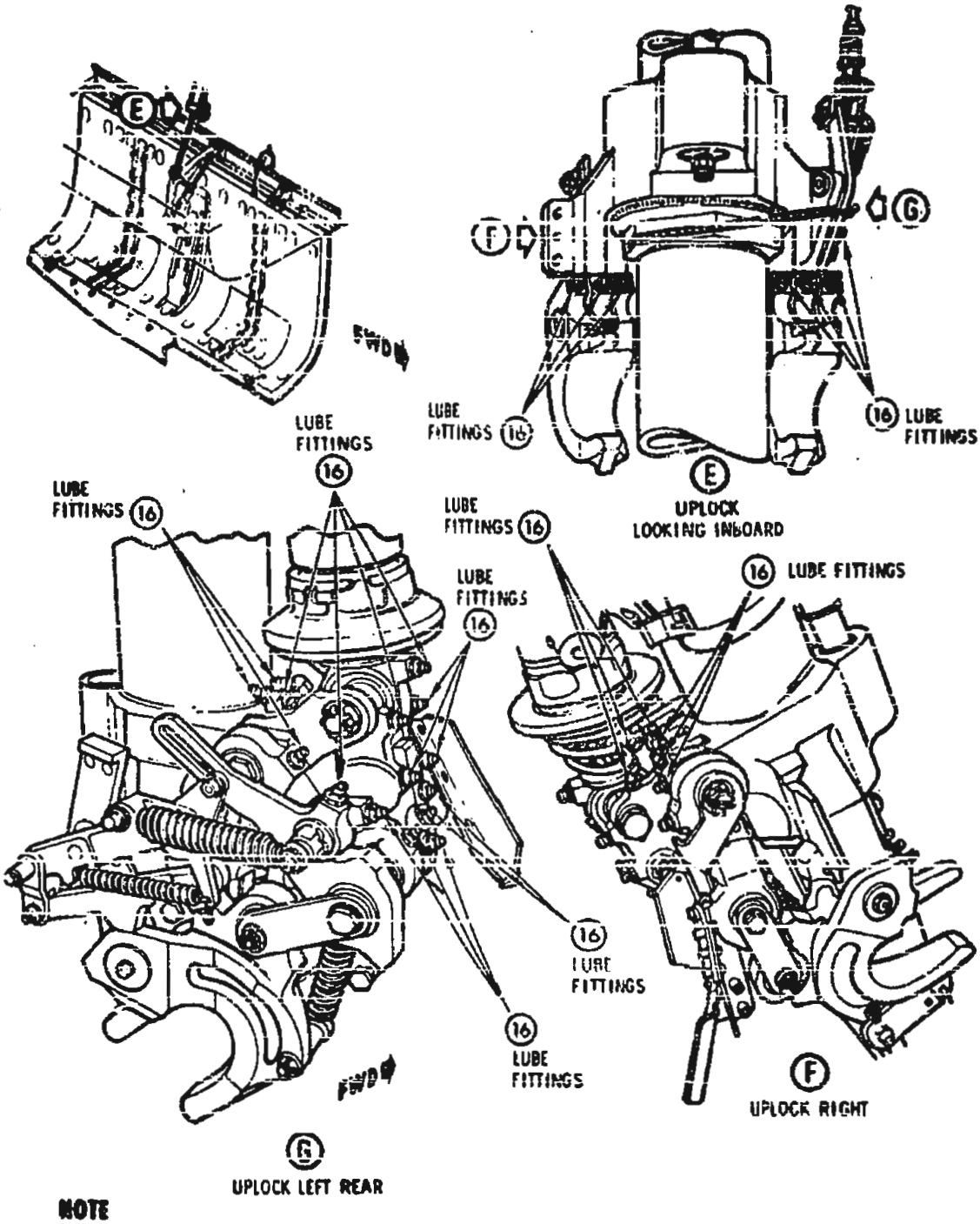
Main Landing Gear Doors Lubrication
Figure 301 (Sheet 1)


(16) LUBE FITTING
UNIVERSAL ASSY
LUBE FITTING (16)
(16) LUBE FITTINGS
NOTE
WHEN LUBRICATING THE UPLOCK MECHANISM, BUSHED JOINTS MAY NOT EXUDE A NOTICEABLE AMOUNT OF GREASE. WHEN EXUDED GREASE IS NOT EVIDENT, A MINIMUM OF TEN SECONDS DWELL PER GREASE FITTING IS RECOMMENDED
MLG DOOR ACTUATOR
LUBE FITTINGS (16)
UPLOCK ACTUATOR
UPLOCK
PISTON
(A)
MAIN LANDING GEAR INBOARD DOOR ACTUATOR

LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0001-12-656

R Main Landing Gear Doors Lubrication
R Figure 301 (Sheet 2)



NOTE

WHEN LUBRICATING THE UPLOCK MECHANISM, BUSHED JOINTS MAY NOT EXUDE A NOTICEABLE AMOUNT OF GREASE. WHEN EXUDED GREASE IS NOT EVIDENT, A MINIMUM OF TEN SECONDS DWELL PER GREASE FITTING IS RECOMMENDED

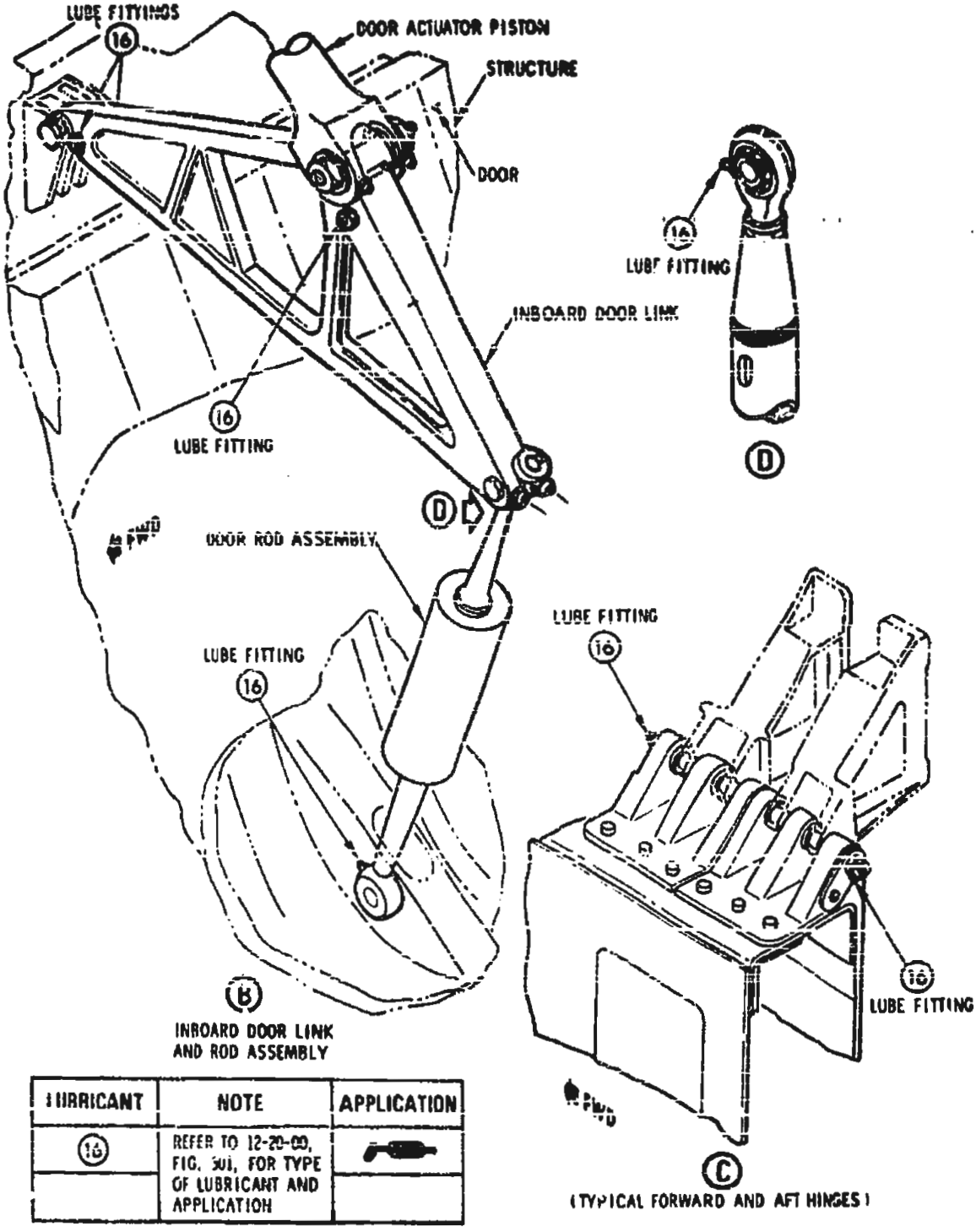
MI-0001-12-057

R
R

Main Landing Gear Doors Lubrication
Figure 301 (Sheet 3)

EFFECTIVITY: ALL

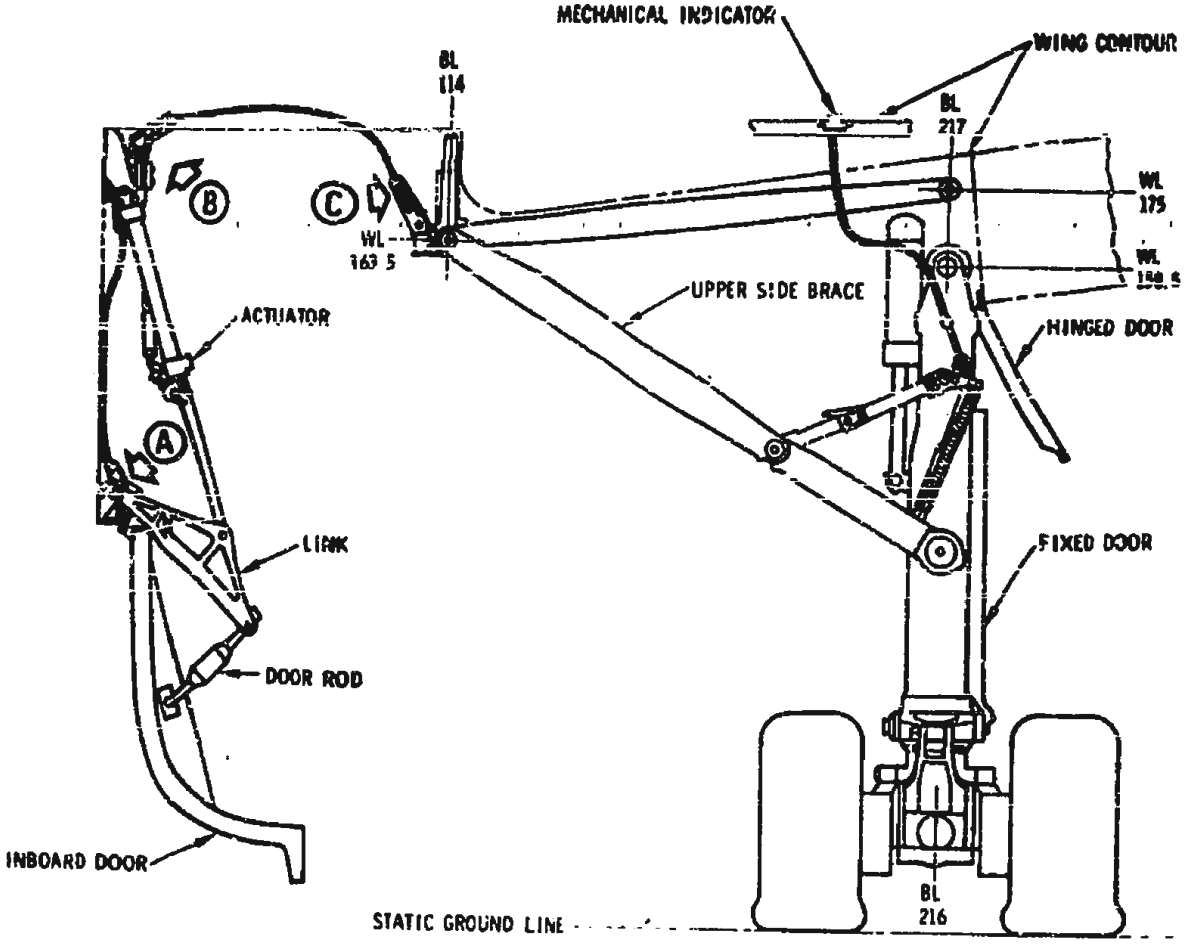
0018



LUBRICANT	NOTE	APPLICATION
16	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0000-12-658

R Main Landing Gear Doors Lubrication
R Figure 301 (Sheet 4)



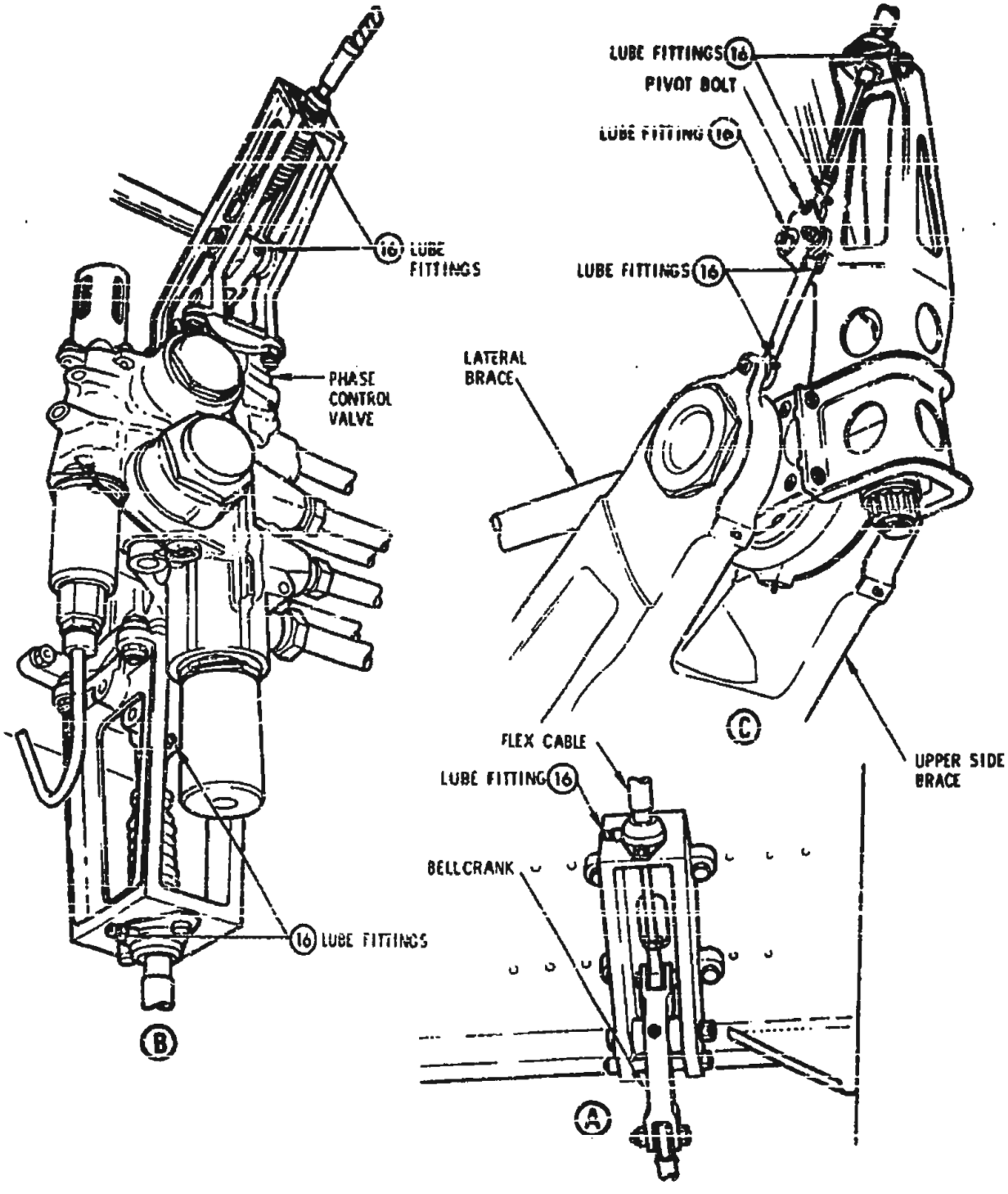
LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0000-12-660

R Main Landing Gear Doors Lubrication - Phase Control Valve Linkage
R Figure 302 (Sheet 1)

EFFECTIVITY: ALL

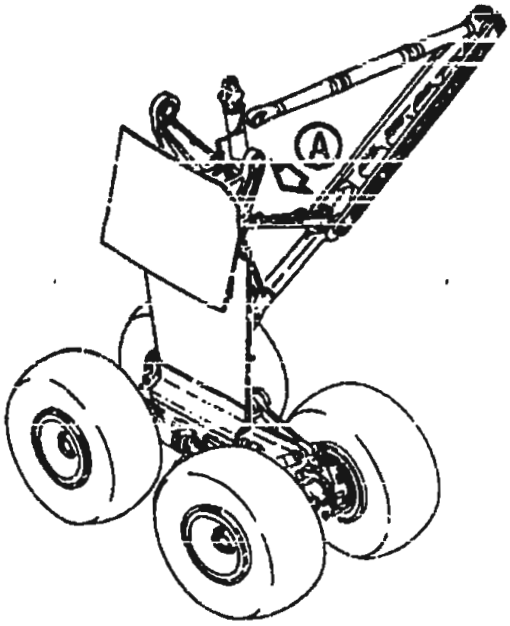
001B

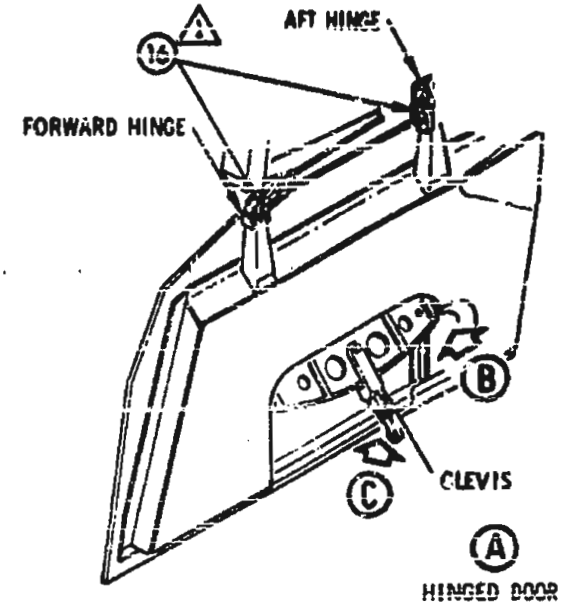


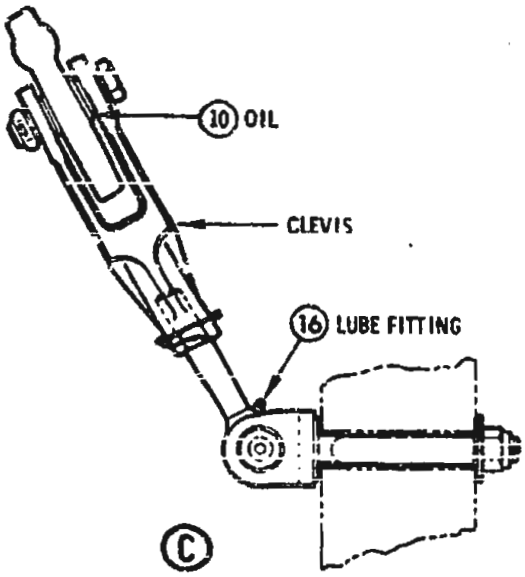
M1-0000-12-660

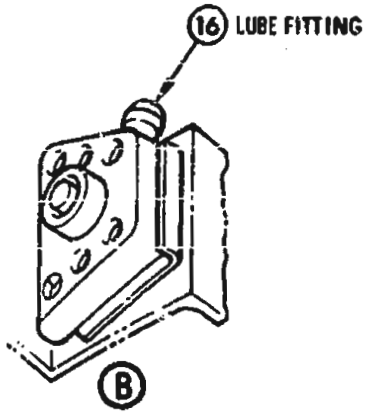
R Main Landing Gear Doors Lubrication - Phase Control Valve Linkage
R Figure 302 (Sheet 2)

EFFECTIVITY: ALL









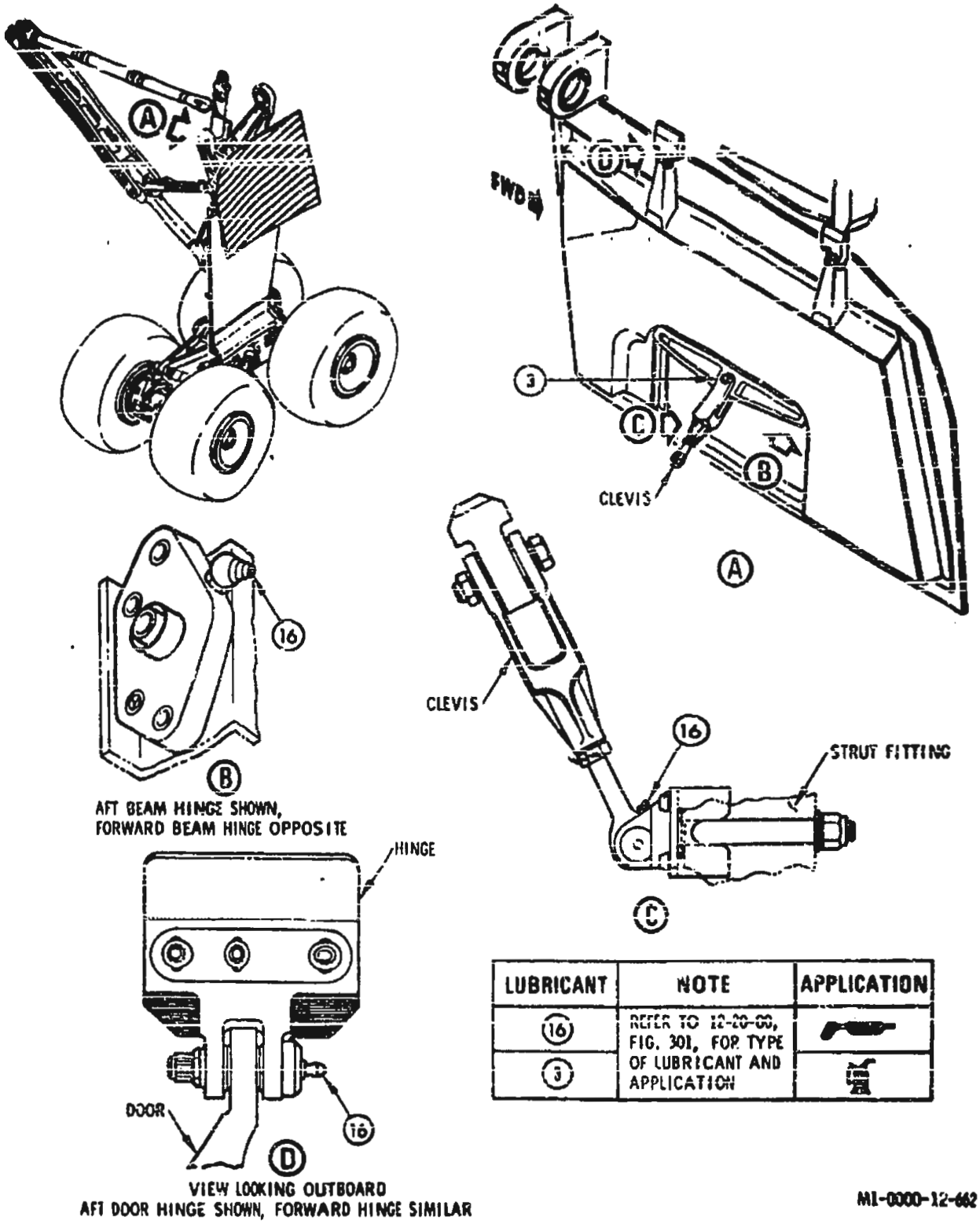
LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
(10)		

NOTE

1. DIRECT GREASE GUN AT SLOTTED AREAS AND INJECT MODERATE AMOUNT OF GREASE IN GENERAL AREA.

M1-0002-12-125

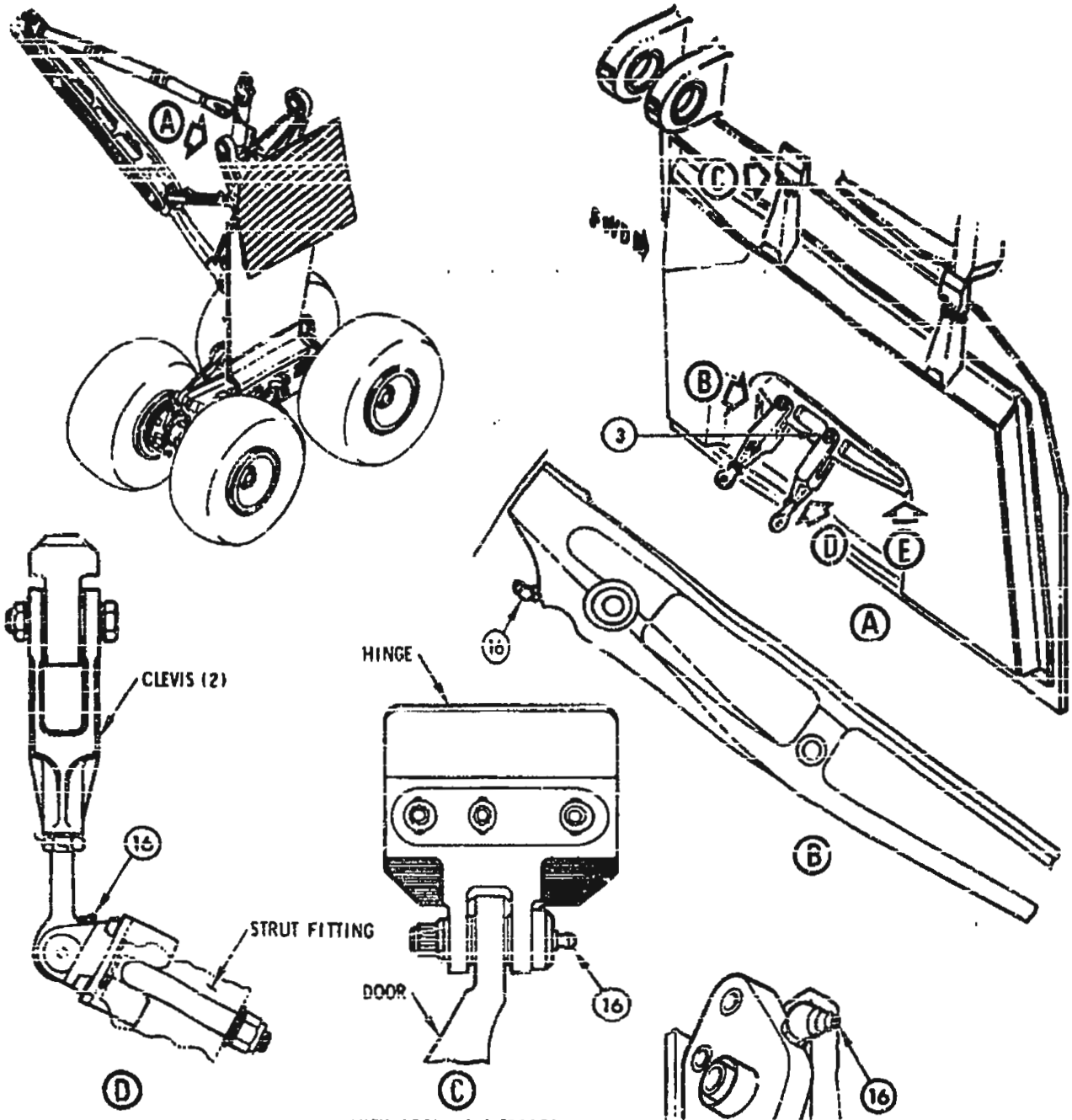
R Main Landing Gear Hinged Door Lubrication
R Figure 303



LUBRICANT	NOTE	APPLICATION
16	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

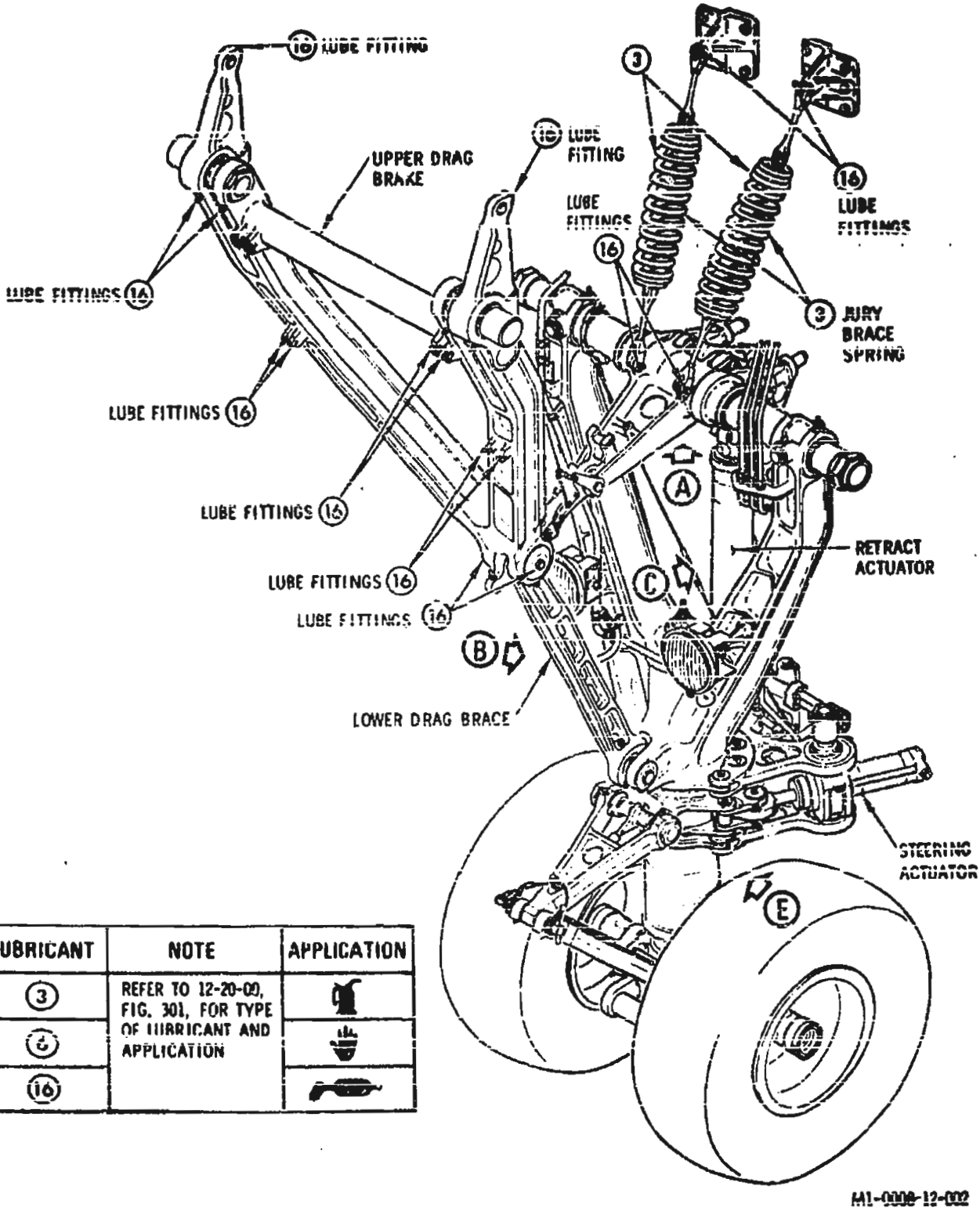
MI-0000-12-662

R
R Main Landing Gear Hinged Door Lubrication
Figure 303



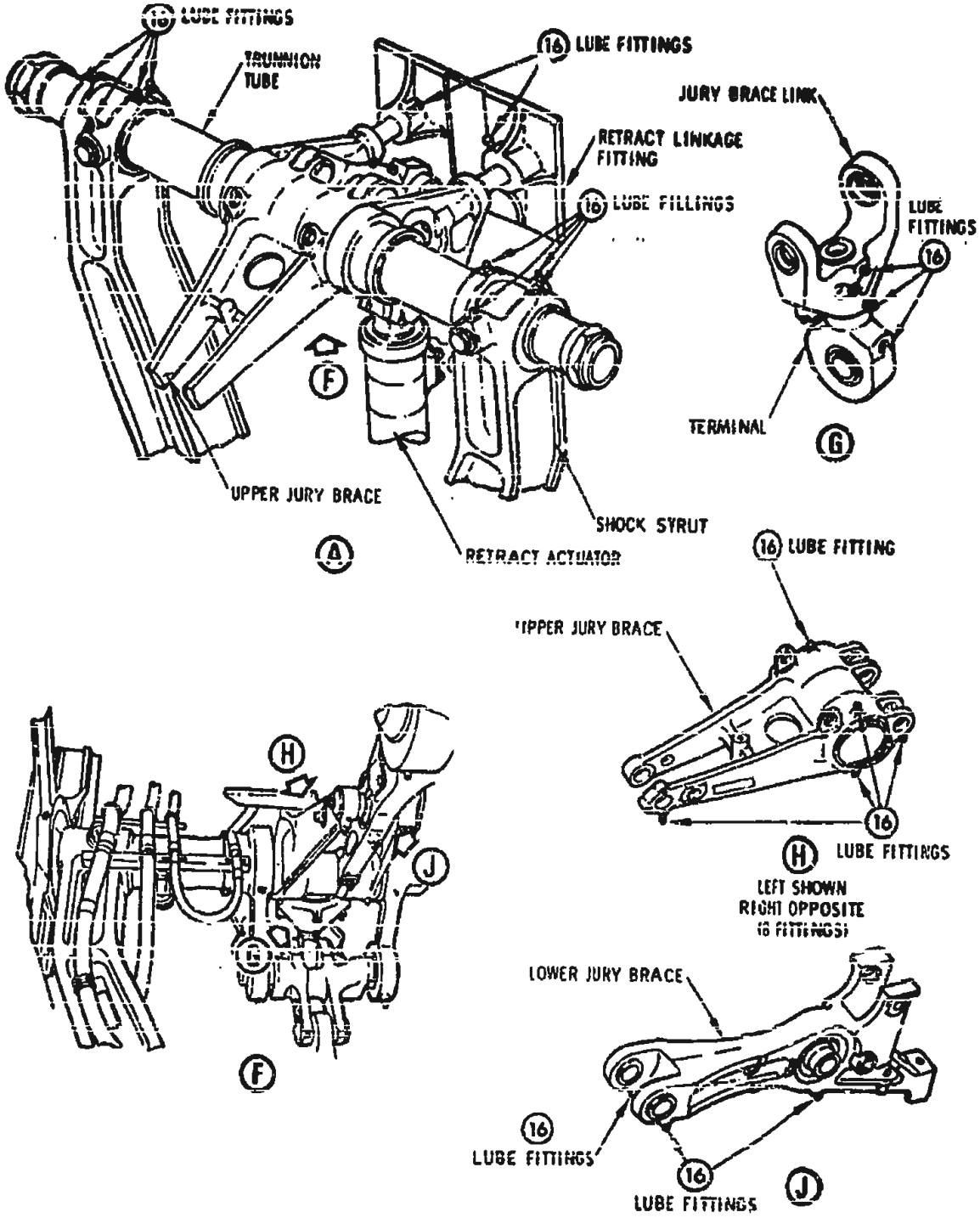
LUBRICANT	NOTE	APPLICATION
16	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

R Main Landing Gear Hinged Door Lubrication
R Figure 303



LUBRICANT	NOTE	APPLICATION
(3)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
(4)		
(16)		

R Nose Landing Gear Lubrication
R Figure 301 (Sheet 1)



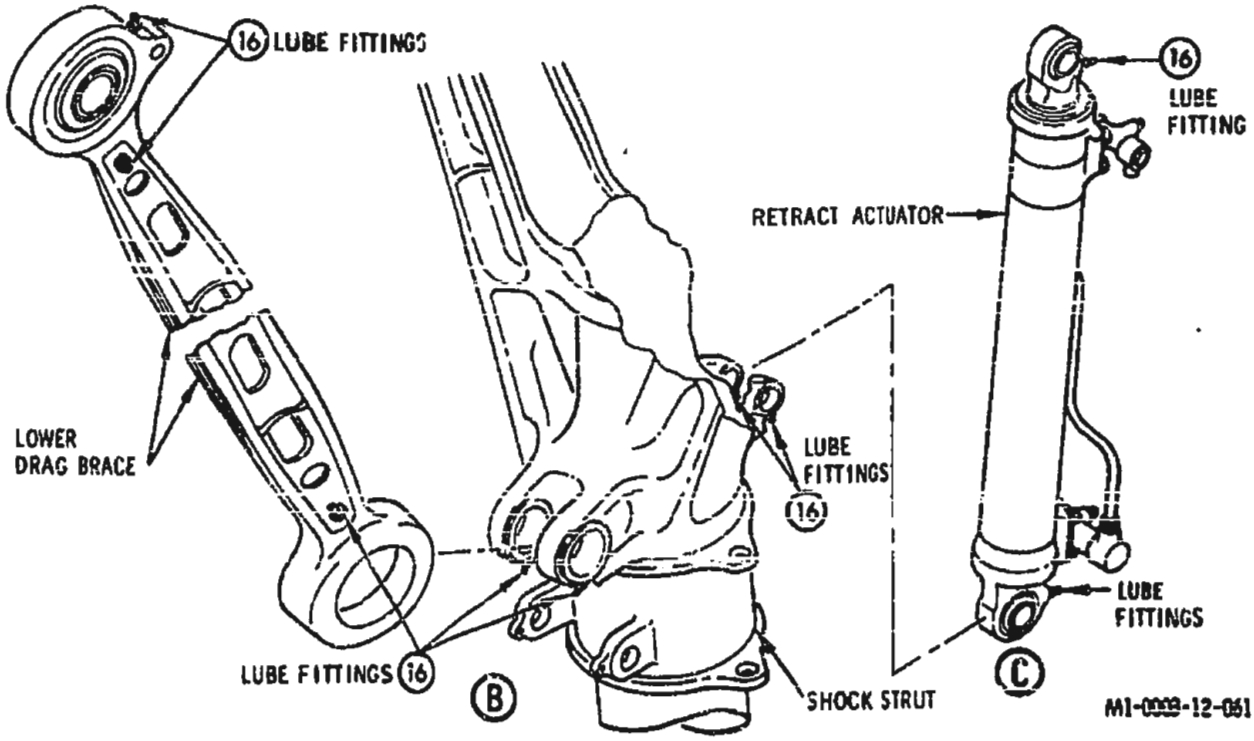
MI-0003-12-060

R
R

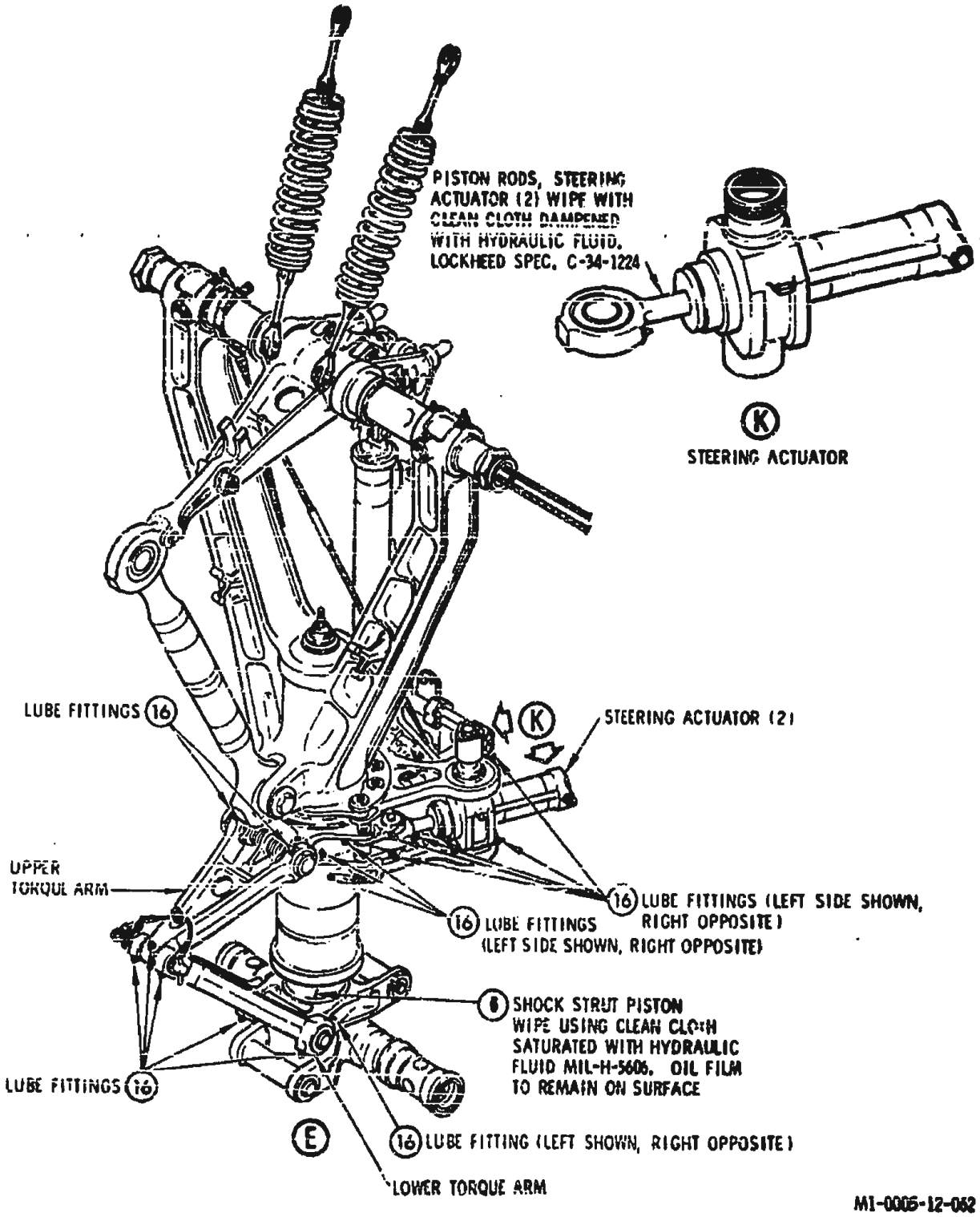
Nose Landing Gear Lubrication
Figure 301 (Sheet 2)

EFFECTIVITY: ALL

001B



R
R Nose Landing Gear Lubrication
Figure 301 (Sheet 3)

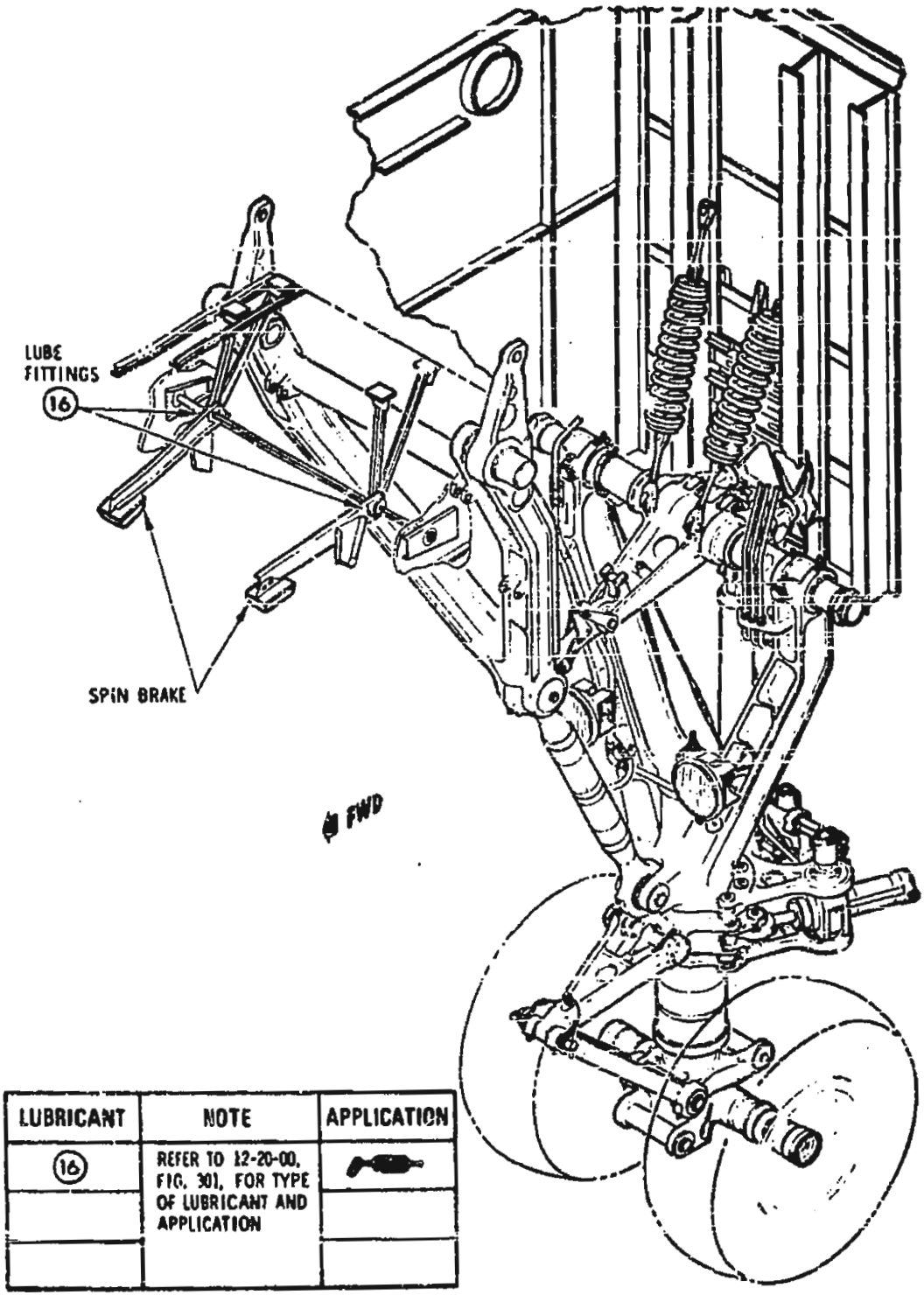

PISTON RODS, STEERING ACTUATOR (2) WIPE WITH CLEAN CLOTH DAMPENED WITH HYDRAULIC FLUID, LOCKHEED SPEC. C-34-1224
(K) STEERING ACTUATOR
LUBE FITTINGS (16)
(K) STEERING ACTUATOR (2)
UPPER TORQUE ARM
(16) LUBE FITTINGS (LEFT SIDE SHOWN, RIGHT OPPOSITE)
(16) LUBE FITTINGS (LEFT SIDE SHOWN, RIGHT OPPOSITE)
(8) SHOCK STRUT PISTON WIPE USING CLEAN CLOTH SATURATED WITH HYDRAULIC FLUID MIL-H-5606. OIL FILM TO REMAIN ON SURFACE
LUBE FITTINGS (16)
(E) (16) LUBE FITTING (LEFT SHOWN, RIGHT OPPOSITE)
LOWER TORQUE ARM

M1-0005-12-062

R
R

Nose Landing Gear Lubrication
Figure 301 (Sheet 4)

EFFECTIVITY: ALL



LUBRICANT	NOTE	APPLICATION
16	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

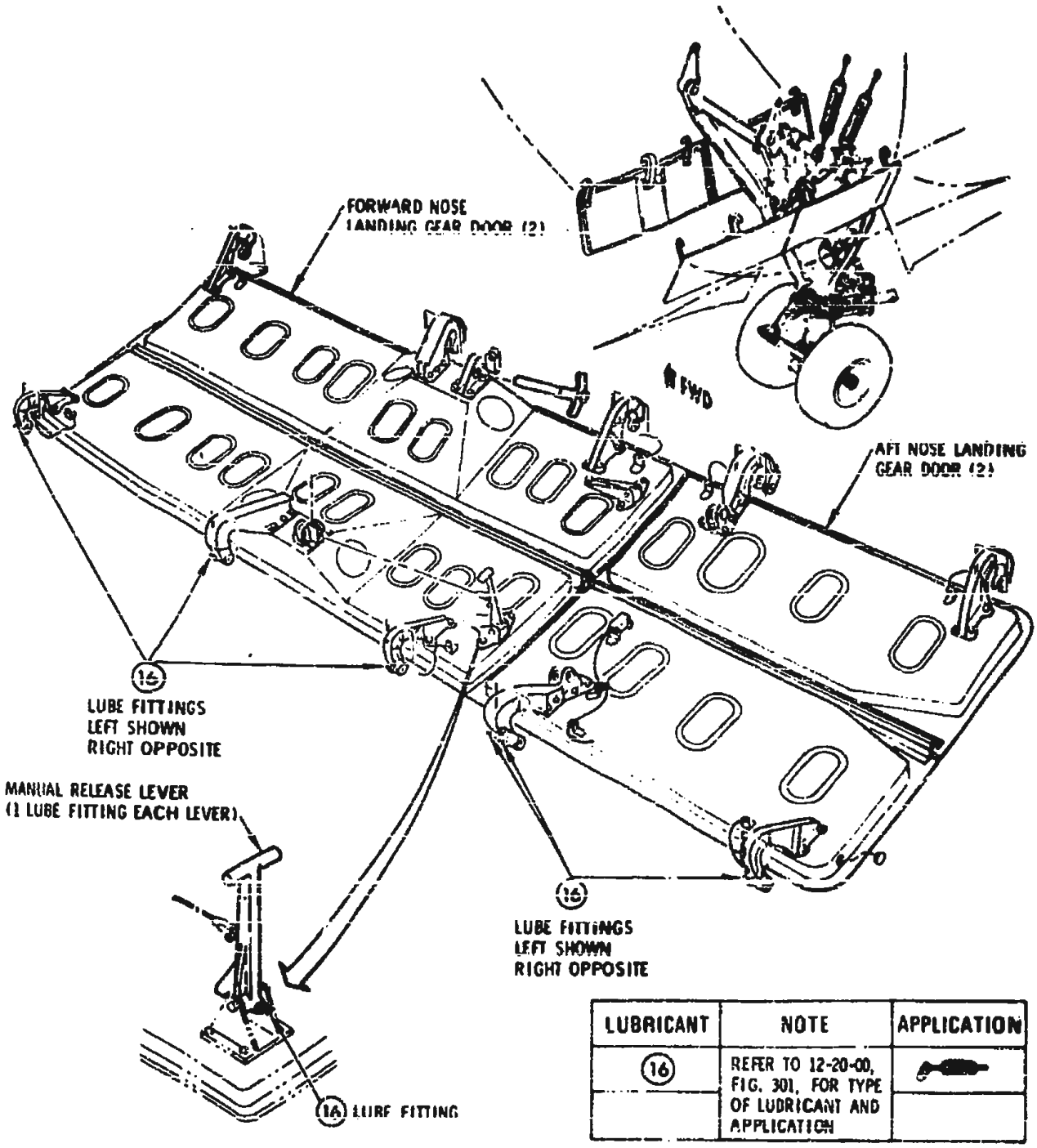
MI-0000-12-664

R
R

Nose Landing Gear Lubrication - Spin Brake
Figure 302

EFFECTIVITY: ALL

001B

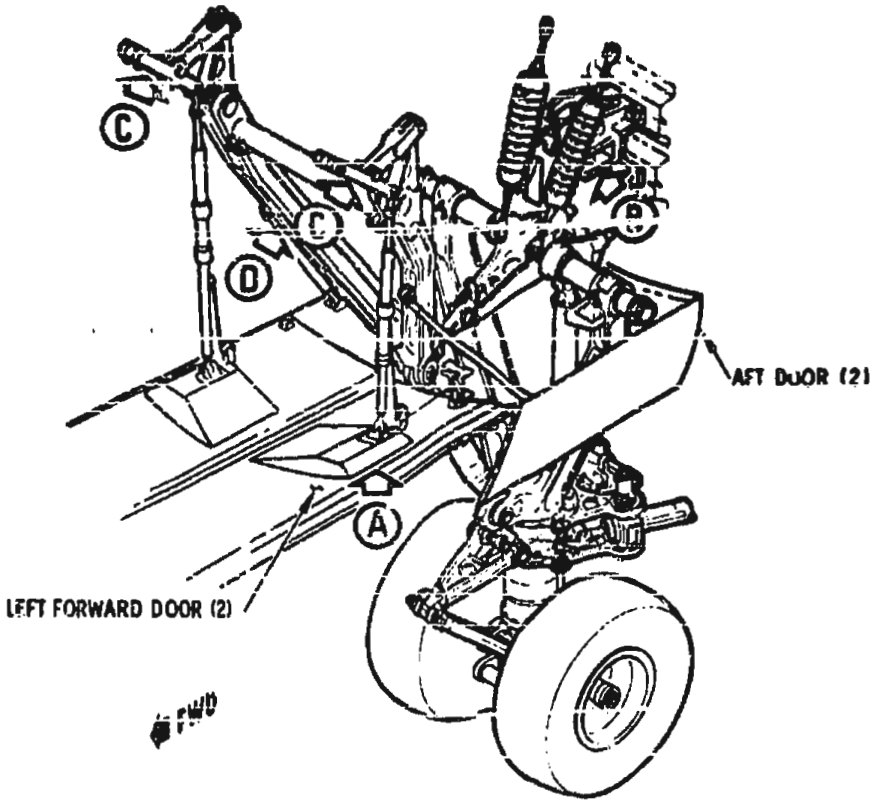


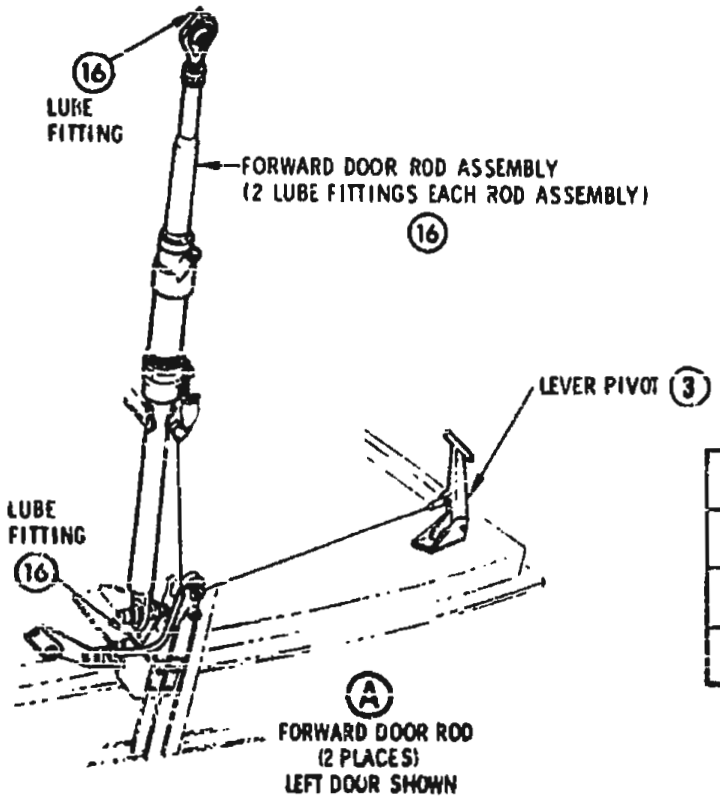
LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

MI-0000-12-665

R
R

Nose Landing Gear Doors Lubrication
Figure 301





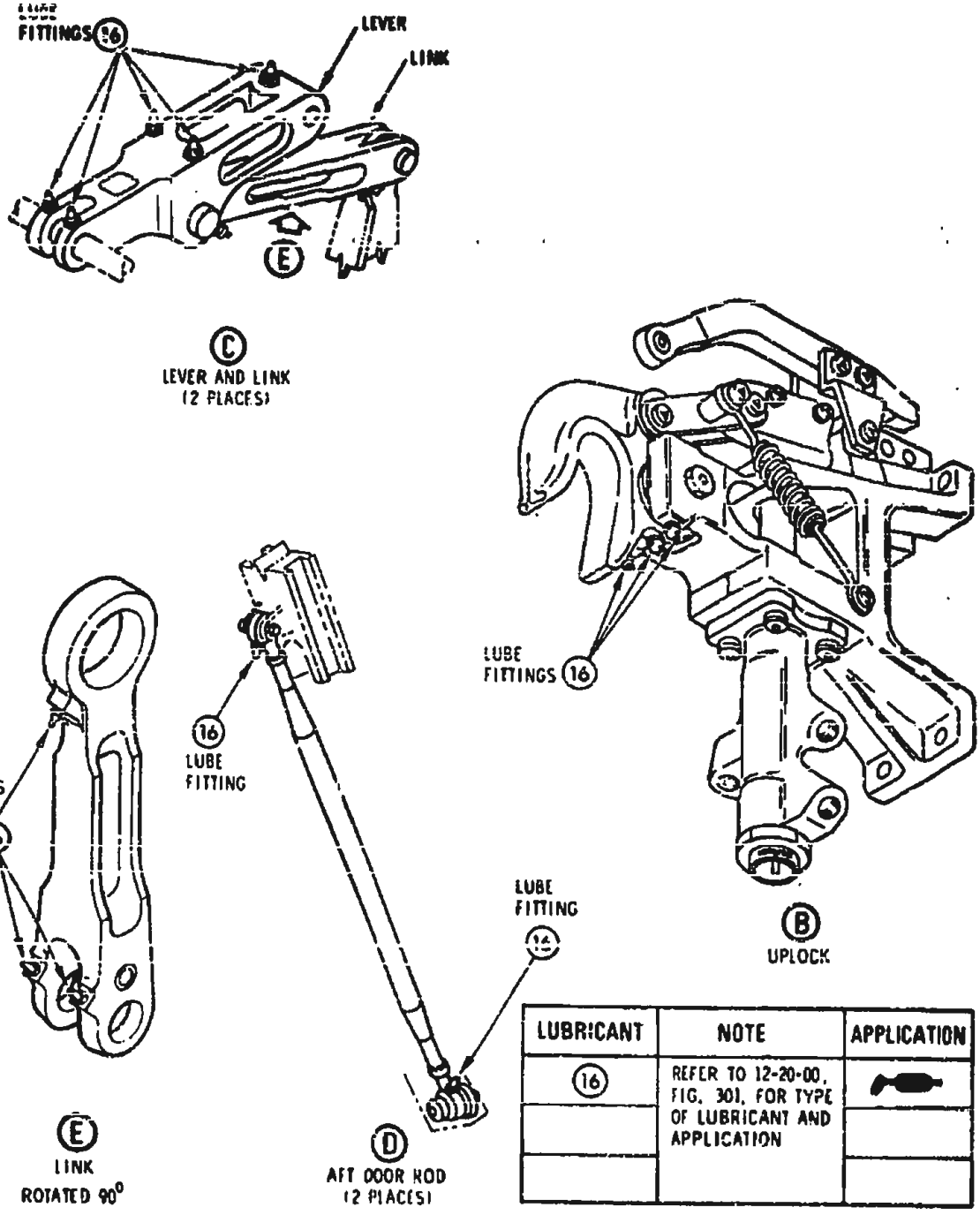
LUBRICANT	NOTE	APPLICATION
16	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	
3		

MI-0000-12-444

R R Nose Landing Gear Doors Lubrication - Door Mechanism
Figure 302 (Sheet 1)

EFFECTIVITY: ALL

0018

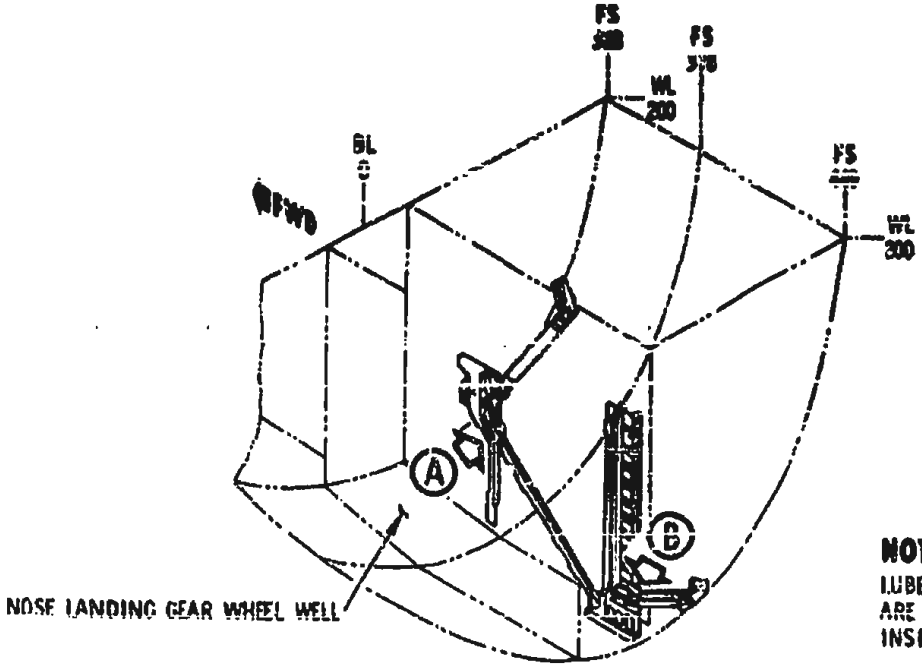


LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

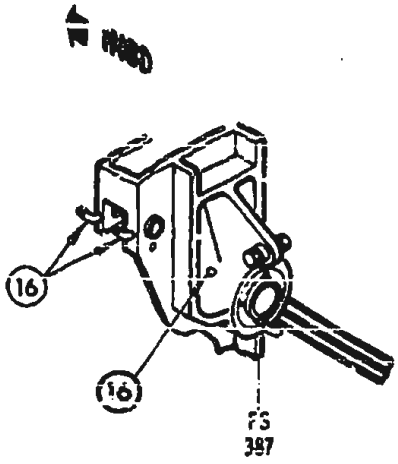
MI-0000-12-667

R Nose Landing Gear Doors Lubrication - Door Mechanism
R Figure 302 (Sheet 2)

R EFFECTIVITY: ALL
R
001B

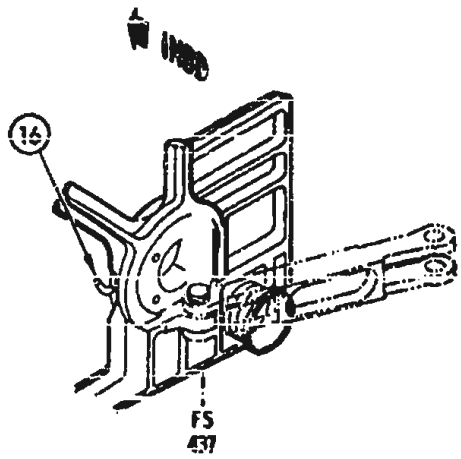


NOTE
LUBE FITTINGS SHOWN ARE ACCESSIBLE FROM INSIDE WHEEL WELL



(A)

LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
UPPER DRAG STRUT PIVOT



(B)

LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE
SHOCK STRUT PIVOT

LUBRICANT	NOTE	APPLICATION
(16)	REFER TO 12-20-00 FIG. 301 FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0001-12-668

R Support Assembly, Nose Landing Gear Drag Link and Shock Strut
R Figure 302 (Sheet 3)

AIRFRAME STRUCTURE LUBRICATION

1. Servicing

Secure the airplane in a clean area suitable for lubrication servicing.

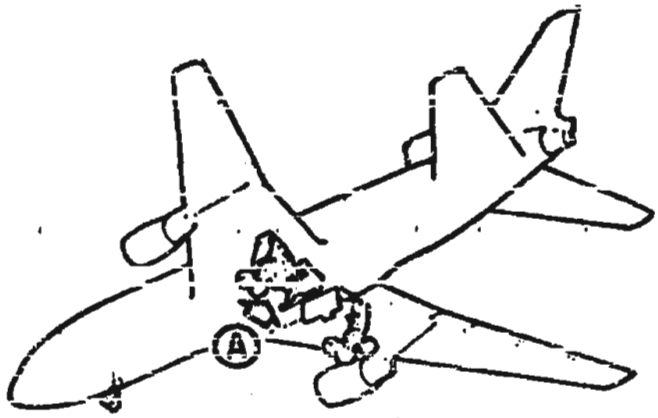
Servicing equipment should include grease guns, oil cans, brushes, clean cloths, and other equipment required for proper lubrication.

The following components require lubrication:

A. Pressure Deck and Floor Beam (Ref. 12-26-01, Fig. 301)

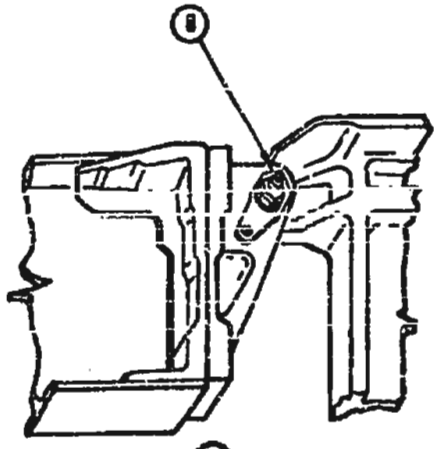
B. Wing Pylon Attach Fittings (Ref. 12-26-02, Fig. 301)

C. Wing Trailing Edge to Fuselage Fittings (Ref. 12-26-03, Fig. 301)



A
FLOOR BEAM
(TYP SIX PLACES)
WHEEL WELL CEILING
VIEW LOOKING AFT

LUBRICANT	NOTE	APPLICATION
B	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	



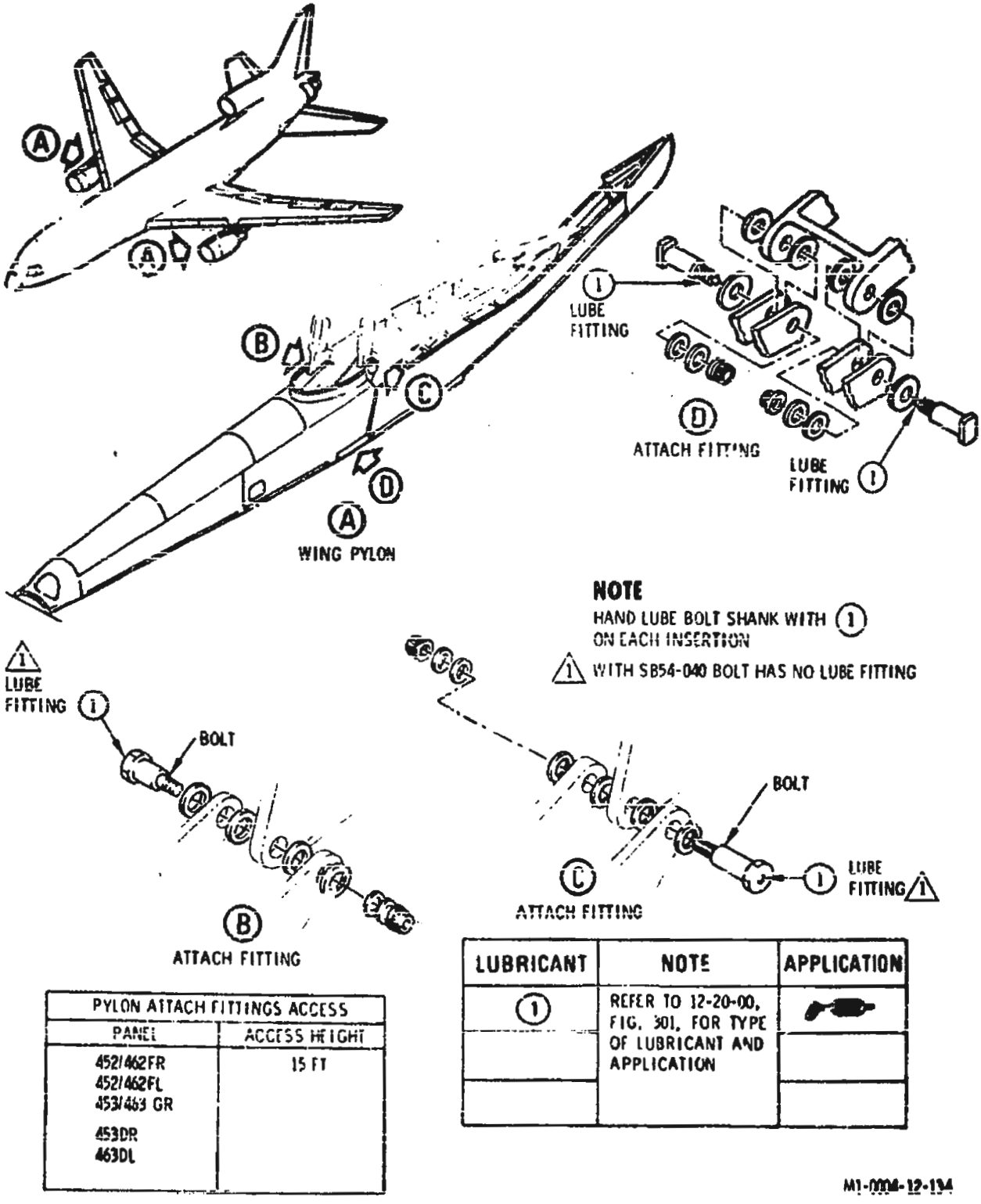
B
LUBE FITTING
(12 PLACES)

AII-0103-12-000

Pressure Deck and Floor Beam Lubrication
Figure 301

R

WING PYLON ATTACH FITTINGS LUBRICATION

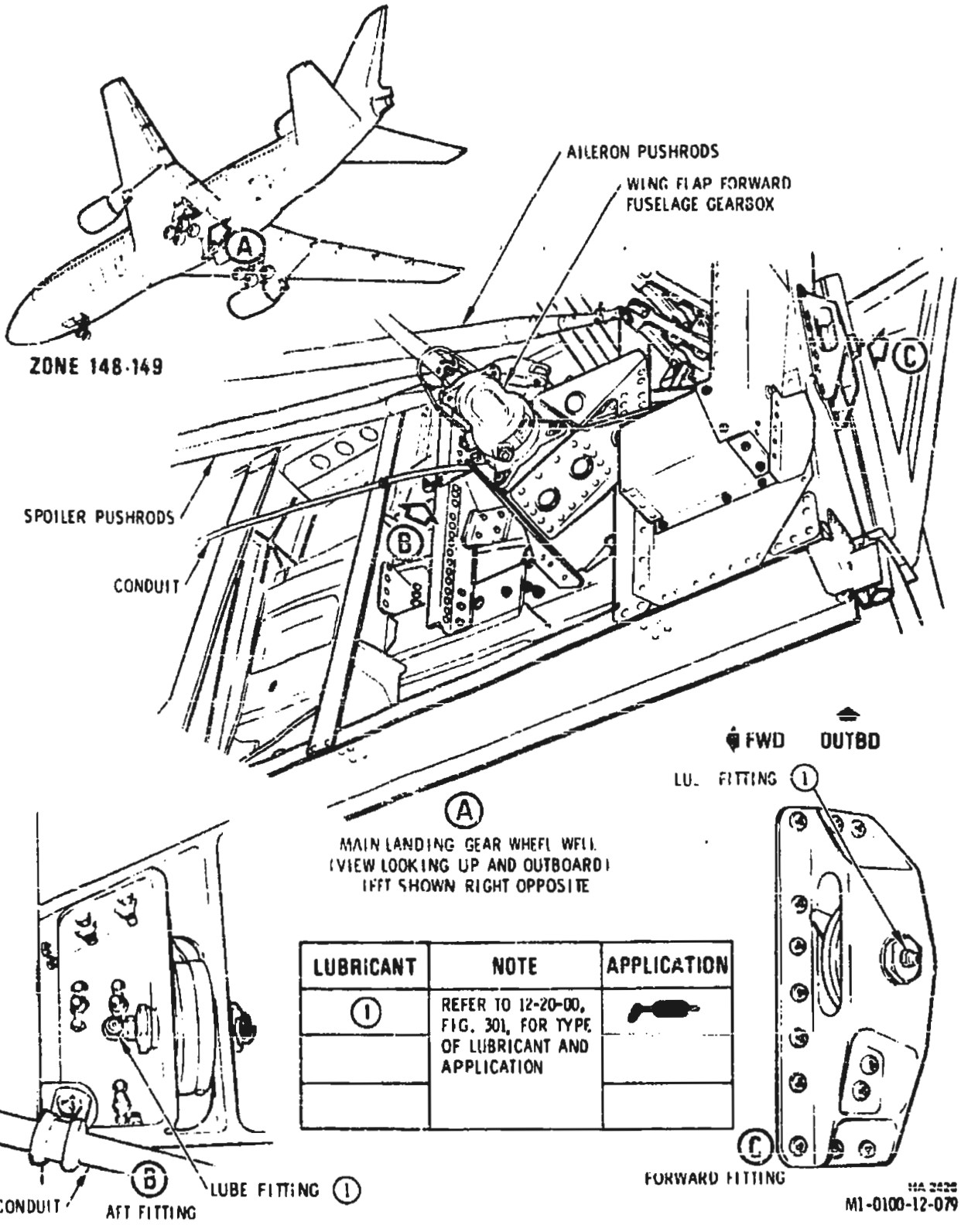


PYLON ATTACH FITTINGS ACCESS	
PANEL	ACCESS HEIGHT
452/462FR 452/462FL 453/463 GR 453DR 463DL	15 FT

LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

M1-0004-12-134

Wing Pylon Attach Fittings Lubrication
Figure 301



LUBRICANT	NOTE	APPLICATION
1	REFER TO 12-20-00, FIG. 301, FOR TYPE OF LUBRICANT AND APPLICATION	

R R Wing Trailing Edge to Fuselage Fittings Lubrication
Figure 301

R R EFFECTIVITY: ALL

050B

C SNOW AND ICE REMOVAL - SERVICING

C 1. General

C Refer to Chapter 7 of the GP&P Manual.

R CARGO DOOR VIEWPORT ANTI-FOGGING - SERVICING

R 1. General

R This section describes procedures for application of
R anti-fogging agent on cargo door viewports.

R 2. Equipment and Materials

R Canton (cotton) flannel cloth, clean, oil free, abrasive free

R "Rainbow" anti-fogging agent, Lensclean Inc. (FSCM 53353)

R 3. Servicing

R CAUTION: FEEL VIEWPORT SURFACE WITH BARE HAND TO DETECT ANY
R ABRASIVE ON SURFACE BEFORE SCRATCHING OCCURS.

R A. Spray viewport inner surface with anti-fogging agent from
R distance of six inches.

R CAUTION: RUB PLASTIC SURFACES WITH AS LITTLE PRESSURE AS
R POSSIBLE.

R DO NOT RUB PLASTIC SURFACE AFTER SURFACE IS DRY.

R B. Wipe surface clean with clean cotton flannel cloth.